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PRODUCING REFINING ENGIN MARKETING

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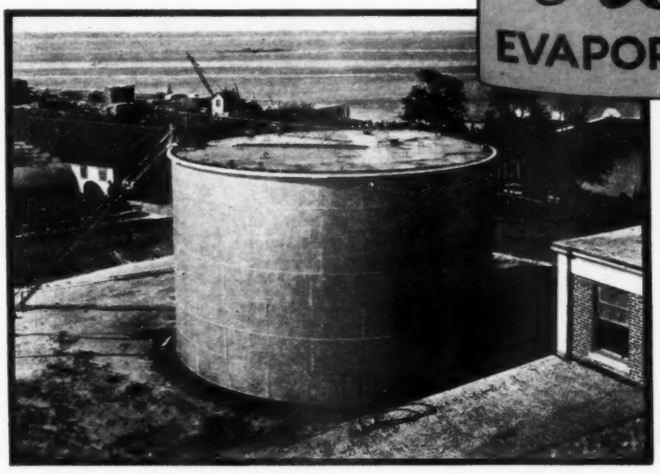
WIGGINS ROOFS

Stop EVAPORATION



AT one stroke, Wiggins Roofs stop evaporation loss, eliminate fire hazard, and reduce corrosion of roof plates caused by sour oil . . . without costly accessory equipment or operating expense. They pay for themselves in a few months from evaporation savings alone. Ask for estimates on equipping existing tanks with these roofs, or on new tanks completely equipped.

Wiggins Pontoon Roof on a 25,000-bbl. gasoline tank at Jacksonville, Fla. It rides on the oil with an insulating air space between the deck and the oil.

Stop CORROSION

Stop FIRE HAZARD

Wiggins Breather Roof on 25,000-bbl. tank at Houston, Tex. Such tanks are often filled so oil is in contact with the roof to reduce corrosion of the plates caused by sour oil. Right: Tanks in a congested district equipped with Wiggins Floating Roofs. They decrease fire hazards and stop evaporation loss.

OGJ 11-6 Gray

CHICAGO BRIDGE & IRON WORKS

DALLAS ATLANTA CHICAGO DETROIT

BIRMINGHAM CLEVELAND PHILADELPHIA SAN FRANCISCO

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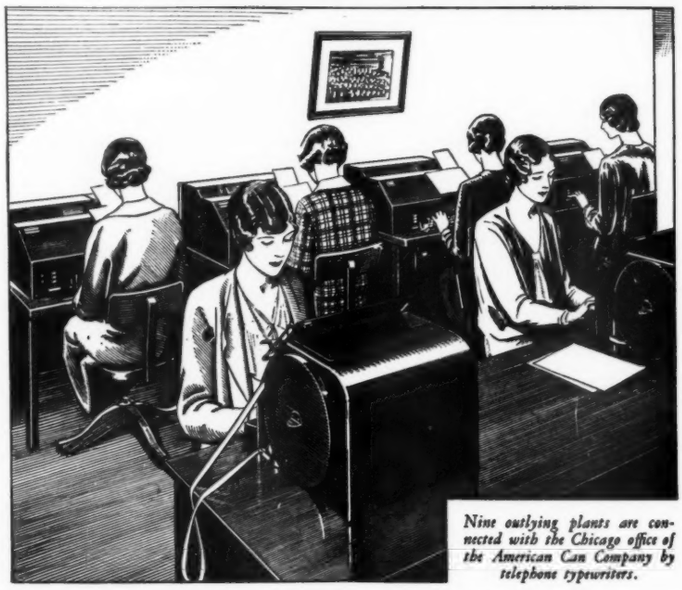

Nine outlying plants are connected with the Chicago office of the American Can Company by telephone typewriters.

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Price Situation Is Becoming Stabilized

Highest daily average estimated total production in 1929, week ended Aug. 24, 2,975,435 bbls. Lowest in 1929, Dec. 27, 2,595,320 bbls.

Industry Justified in Expecting Material Improvement by Beginning of the Main Consuming Season Next Year

By Andrew M. Rowley

Highest daily average estimated light oil production in 1929, week ended Sept. 14, 2,534,524 bbls. Lowest in 1929, Apr. 13, 2,142,036 bbls.

A forward step towards stabilization of the gasoline market seems to have been taken as a result of the recent reductions in the crude oil price schedule. The feeling is gaining ground that prices of refined oils have about reached bottom and distributors who have permitted their stocks to reach a low level are expected to enter the market to purchase requirements at the low price level now prevailing.

As the gasoline price is the most important factor at this time affecting the crude oil price schedule, improvement in the general situation is expected, especially in view of the efforts being made to hold gasoline stocks down to actual requirements during this winter and the success attending the crude oil proration and conservation movement. Crude runs to stills in the Mid-Continent area at this time are the lowest, with the exception of one month, in two years. This is a most encouraging sign and this condition, if continued through this winter, cannot help but place the entire industry in a strong position at the beginning of the main consuming season next year.

Although noted for its optimism and its ability to always believe "next year will be a good and prosperous year," the petroleum industry now has every reason to expect a very material improvement all along the line during 1931. Crude oil production is and has been kept at the lowest point in more than two years. Consumption has increased over last year. Stocks of crude oil are lower than a year ago and the refining industry seems determined to avoid the mistake of last year and to hold its gasoline stocks this winter down to actual requirements.

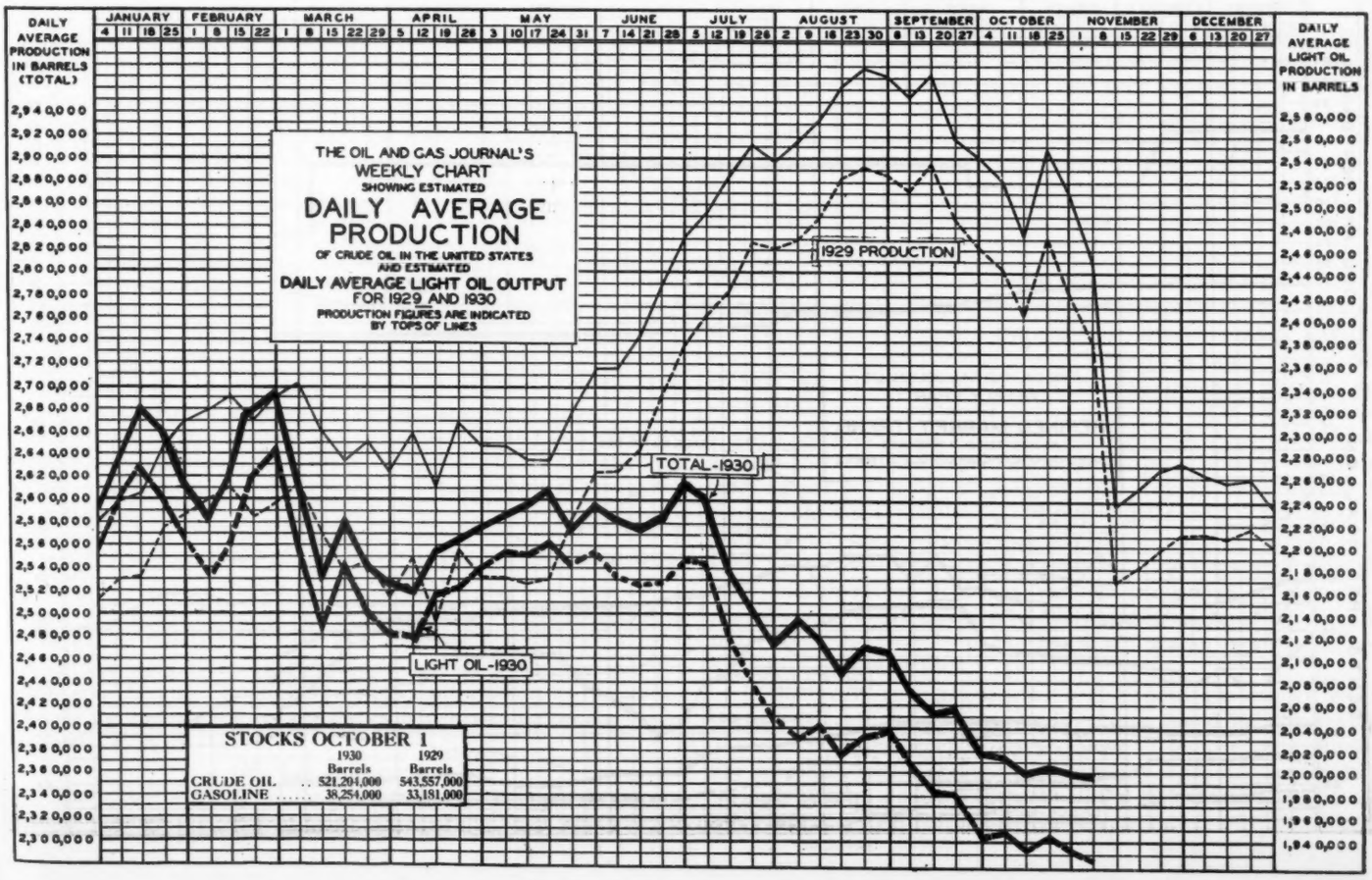
Many problems relating to overproduction of crude oil still confront the industry and will need solution both this year and next before a full measure of prosperity is assured. Further curtailment of production will be necessary in California and adjustments must be made elsewhere. However, the industry is more confident of its ability to solve these problems as a result of the success which has attended similar efforts during this year.

PRODUCTION IN THE UNITED STATES

Estimated daily average production of light and heavy gravity oil in the United States for week ended November 1 and a comparison with the previous week follows:

	November 1		October 25	
	Light	Heavy	Light	Heavy
Oklahoma—				
Oklahoma City	84,785	.....	88,895	.....
St. Louis-Pearson	22,370	.....	23,435	.....
Seminole	137,055	.....	141,115	.....
Northern miscellaneous	220,095	.....	223,590	.....
Southern fields	59,680	.....	59,810	.....
Total Oklahoma	523,985	.....	536,845	.....
West Texas—				
Hendricks	59,215	.....	59,922	.....
Yates	106,845	.....	105,760	.....
Remainder	114,613	.....	109,465	.....
Total West Texas	280,673	.....	275,147	.....
North Louisiana	37,465	5,440	36,440	5,410
Arkansas	16,700	36,350	16,425	36,340
North Central Texas	108,167	.....	108,546	.....
Texas Panhandle	81,365	.....	85,916	.....
East Central Texas	41,808	.....	43,048	.....
Kansas	114,210	.....	115,520	.....
Total Mid-Continent area	1,204,373	41,790	1,217,887	41,750
Gulf Coast	.....	182,902	.....	186,544
Southwest Texas	.....	118,868	.....	110,896
Eastern	113,000	.....	113,000	.....
Rocky Mountain area	103,771	.....	99,511	.....
California—				
Santa Fe Springs	94,000	.....	93,750	.....
Long Beach	98,000	.....	99,000	.....
Playa Del Rey	30,000	.....	25,500	.....
Elwood	38,000	.....	38,000	.....
Ventura Avenue	45,500	.....	46,000	.....
Kettleman Hills	24,000	.....	24,000	.....
Remainder of State	178,000	87,000	180,000	87,000
Total California	507,500	87,000	506,250	87,000
Total United States	1,928,644	430,560	1,936,648	426,190
Grand total	2,359,204		2,362,838	

Total Decrease 3,634 Bbls.; Light Oil Decrease 8,044 Bbls.



Refinery Market Is in Better Position

With Prices Thought to Be Near Bottom and Crude Runs Reduced, Present Retail Structure Likely to Be More Easily Stabilized

By W. T. Ziegenhain

There were no important price changes in the Oklahoma refinery market during the past week with the exception of natural gasoline. Refiners in general, however, have been relieved of burdensome gasoline stocks and are now in a better position to maintain the present level of prices despite the slowness of orders. Many account for the lack of orders by suggesting that marketers expect a further reduction in the posted tank wagon and service station prices in the Standard of Indiana territory. Many local reductions have been made since the general tank wagon reduction two weeks ago, which indicates the uncertainty of that market, but with refinery prices thought to be on bottom, the present retail market structure can be more easily stabilized.

Improves Statistically

Within the past week Oklahoma refiners have revised downward their crude schedules for November. Similarly, crude runs in other areas in the Mid-Continent will be reduced during November, indicating a total reduction in refinery runs for the month of approximately 12,000 bbls. daily. With the exception of September of this year, this is the lowest schedule since July, 1928.

Crude production in Oklahoma was further reduced 13,000 bbls. during the past week and the total crude production for the United States is now lower than at any other time in more than two years. Gasoline stocks are also being maintained at a low figure, the latest figure available from the Bureau of Mines indicating total stocks of gasoline at 38,254,000 bbls. October 1, as compared with 41,624,000 bbls. September 1, a decrease of almost 3,500,000 bbls. for the month. September showed a substantial increase in the consumption of gasoline compared with the same month in 1929. This was not true of August, and the September figures indicate we may expect the increase for the year to be nearer what was predicted, namely 8 per cent over 1929.

Gasoline

The larger refiners continue to quote 5¼ to 5½ cents for U. S. Motor gasoline, and 4¾ cents was bottom for the market. The 4½-cent material available so freely during the past two weeks has disappeared from the market and this fact has proven to be most encouraging with respect to possibilities in the future of the market. The 400 and 390 endpoint gasolines were a little more in demand, due possibly to the colder weather, and prices on these were well established at 5¼ to 5½ cents, with a little material going out above this range.

Natural Gasoline

The natural gasoline market weakened at the close of the week as prices were generally shaded one-quarter cent below those at the opening of the week.

All grades of natural gasoline were being traded in at 4½ cents with some AA quoted at 4¾ cents. The hesitancy on the part of refiners to purchase normal quantities of natural gasoline due to the slowness of the refinery market was said to account for the shading of natural prices.

An increase in the production of natural gasoline has also occurred in the Oklahoma City Field, due to permitting several gasoline wells to produce. These wells do not come under the general proration order. The gas, or vapors, coming from these wells are very wet and under the high natural pressure produce large quantities of natural gasoline by processing it through a simple modified rectifying and stabilizing unit.

Kerosene

There were no important changes in the kerosene market, the bulk of the low-sulphur, good burning test material moving at 3¼ cents, while the general price range continued to be 3⅛-3¼ cents. Distillates were in better demand due to the colder weather throughout the northern territory, but the offerings more than equaled the demand at all times.

Fuel Oil

All grades of fuel oil were freely offered at last week's quotations and the general market continues in a rather weak position. A few grades, such as

(Continued on Page 138)

REFINED MARKET BAROMETER

The movement of refinery products continued slow in all areas during the past week but there is a general impression that prices have struck bottom. There were no important price changes along the Eastern Seaboard but possible lower export quotations at the Gulf Coast acted as a depressing factor. Refinery gasoline prices were quoted slightly lower in California and the fuel market was also noticeably weaker there. Natural gasoline was more freely offered in the Mid-Continent and prices were again fractionally reduced. The demand for lubricating oils and wax has been below normal and the reduction in the posted price on all grades of Pennsylvania crude added weight to an already heavy market and price shading was often practiced when orders accompanied inquiries.

Atlantic Seaboard—The offering of Gulf Coast and California gasolines delivered to Atlantic Coast points at prices below the prevailing tank car market was a most disturbing factor in the Eastern market. Every effort is being made to stabilize prices at their present level but the success of like efforts being made in other areas will greatly influence the outcome.

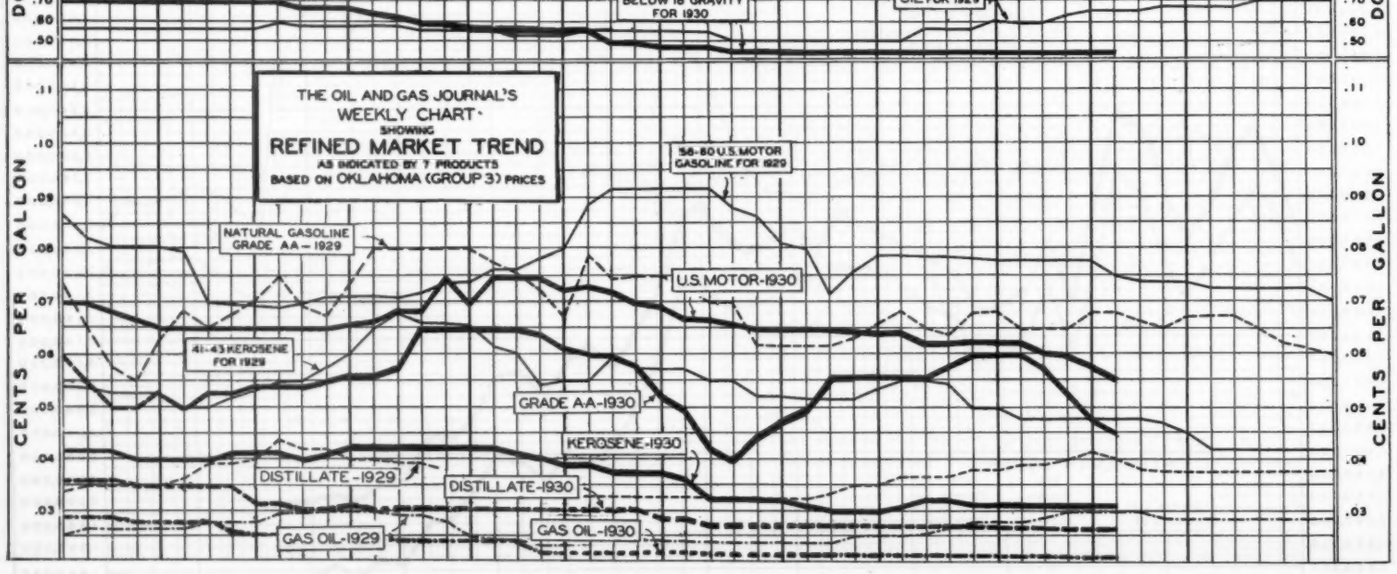
Mid-Continent—Refinery gasoline prices were thought to have struck bottom. Natural gasoline weakened as refiners reduced their requirements. Lubricating oil and bright stocks were freely offered at last week's price level.

Gulf Coast—Fuel oil was noticeably weaker and price reductions were posted for local delivery. The export market for gasoline also witnessed a decline in demands and was accounted for in the belief a reduction would soon be posted by the export association.

Pennsylvania—A slow moving market barely maintained last week's level of prices.

Chicago—Gasoline prices are thought to be on the bottom but marketers have been hesitant about buying because of the possibility of another general tank wagon reduction in the Standard of Indiana territory.

California—Refinery gasolines were quoted at slightly lower prices and fuel oils weakened while the balance of the market remained unchanged.



Gas Energy Proration to Prevent Waste

Equitable and Controlled Distribution of Energy Contained in Natural Gas in Pool Is Basis of Engineer's Proposal

By J. R. McWilliams
Skelly Oil Co.

It is evident that an entirely different and more fundamentally sound conception of the rights of owners to the contents of an oil and gas reservoir must be more generally understood and accepted if we are to exploit profitably our deeper fields and materially reduce the underground waste incidental to the recovery of a resource which is nonreplaceable.

This new conception holds, in part, that oil and gas in a reservoir, being fugacious and migratory, do not belong to the surface owner until extracted and each owner has a co-equal right to take his proportionate share from the common pool provided his methods do not occasion waste.

A Co-Equal Right

To secure this co-equal right and to prevent underground waste the function of gas energy in the production of oil must be more generally understood. In a reservoir oil and gas exist in a co-mingled state and in most of them the oil moves to the wells because of the inherent energy in the gas when under pressure, the amount of oil produced depending upon the degree of efficiency with which this gas energy is used. So we must control the gas energy consumed in producing oil if we are to decrease underground waste but this is not generally done under our present system of competitive extraction.

Suggests Prorating Gas Energy

Therefore to remedy this situation it seems logical, although revolutionary, to propose that the gas energy of a common pool be prorated to each operator. This would allow the progressive operator an opportunity to produce as much oil as he could without jeopardizing the interests of others or being jeopardized by his neighbor's methods of development and operation. Since in all cases we produce only a percentage of the oil in a reservoir, if one operator produces more oil than another with the same amount of energy he has merely obtained through a greater efficiency a higher percentage of recovery from his property.

The proration of gas energy could be effected within practical working limits in as much as the volume of gas produced is an indicator of the depletion of gas energy within the reservoir. And if the gas withdrawal from the field were retarded in such a manner as to render the mean reservoir pressure fairly constant over the whole area then the proration of the gas energy might be reasonably effected by limiting the gas volume each owner could produce from his wells.

Method of Procedure

The actual working of the energy proration might be accomplished through the medium of some governing body which would hear the recommendations of the operators in the field and decide upon a specific volume of gas per acre of lease which each operator would be allowed to produce from the well or wells upon his property. There would have to be some average assumption made as to the economical spacing of wells and no well allowed a greater gas production than that obtained by multiplying the well's fixed drainage area by the allowable gas production per acre. The allowable gas production per acre from the field should not be constant but subject to change upon a proper hearing. It should be a minimum amount when the pool is first opened in order that subsequent wells in the common pool be allowed the necessary time to reach the sand and thus find an almost virgin condition of pressure and gas volume around them.

This proration of gas energy should continue until the wells ceased flowing when no further restraint need be placed upon the operators since the energy in the reservoir by that time would have been depleted to such an extent that no operator could materially jeopardize his neighbor's rights and cause any appreciable underground waste.

Advantages of New Plan

Chief among the advantages secured by this apportionment of gas energy would be the greater ultimate recovery of oil from the reservoir. Further, there would be a stabilizing effect since the peak of flush production of both oil and gas would be flattened out and this would allow the physical waste of gas through blowing it into the air to be largely eliminated because the gas companies through the expectation of a steady gas production over a sustained period of time would be warranted in many cases in laying their lines into the field. Also, the oil production from the pool could be prorated to meet the demand by decreasing the percentage of gas proration without the necessity of taking potentials. Small tract operators would tend to unitize their holdings in order to secure a sufficient allocation of gas for the operation of their well or wells. Each owner by his method of development and operation would fix his own percentage of extraction. And the progressive owner would have an unhampered opportunity to increase the efficiency of his operations and an incentive to perfect still better methods.

Undoubtedly such a proposed proration of gas energy would present difficulties but they should not be found insurmountable. And obviously the benefits derived from this admittedly revolutionary procedure would prove it to be not only a genuine conservation measure but also a remedy for many of the difficulties existing under our present system of competitive extraction.

A NEW OPERATING PLAN SUGGESTED

The Oil and Gas Journal feels Mr. McWilliams has contributed much to the entire petroleum industry in his accompanying article. Not only is his proposal legally sound but there are already on the statute books of most, if not all, oil and gas producing states laws which have been tested through the higher courts which cover the legal aspects of the plan. Many of the advantages accruing from operation of such a plan have been listed in this article. Any one of these advantages, probably, is of sufficient importance to warrant giving the plan at least a tryout. Of especial importance to the future of the industry is the fact operation of such a plan provides an incentive for each company to operate its properties in the most efficient manner and to utilize the best engineering methods, practices and equipment available. It differs from the unit plan of operation in that it permits each company to operate its own properties and to utilize its own ideas and methods. Placing in effect such a plan would mean much to the natural gas industry in that it would insure over a long period an easily estimated natural gas reserve which would permit the gas company to determine the advisability of building transmission lines into the field. Under present conditions, the natural gas pressure in a field often is depleted quickly through inefficient methods of utilizing the natural gas energy in the production of oil.

Believing that Mr. McWilliams' article will cause considerable discussion, especially among the many engineers and oil company executives who will attend the annual meeting of the American Petroleum Institute in Chicago next week, The Oil and Gas Journal will be glad to publish for the benefit of the industry as a whole the views of engineers on the feasibility and practicability of the plan proposed by Mr. McWilliams.

Refiners Reduce Runs During November

Curtail Operations Despite Lower Crude Cost in Effort to Hold Stocks and Production to Current Demands

By W. T. Ziegenhain

Mid-Continent refinery runs will be 12,100 bbls. less during November than October and except for the month of September of this year, the schedule is the lowest since July, 1928. This month's runs are 39,000 bbls. less than those of November, 1929, and 44,000 bbls. below the runs during the same month in 1928.

RUNS TO STILLS AT MID-CONTINENT REFINERIES

1928	
June 1	487,135
July 1	506,310
August 1	543,625
September 1	563,270
October 1	547,820
November 1	550,000
December 1	520,000
1929	
January 1	508,550
February 1	506,800
March 1	514,950
April 1	530,530
May 1	577,500
June 1	585,030
July 1	565,800
August 1	555,250
September 1	552,300
October 1	544,720
November 1	545,473
December 1	540,630
1930	
January 1	535,460
February 1	519,355
March 1	531,500
April 1	555,250
May 1	574,300
June 1	572,250
July 1	548,475
August 1	526,400
September 1	498,710
October 1	518,800
November 1	506,700

MID-CONTINENT REFINERY OPERATIONS

(Based on Operations November 1, 1930, and October 1, 1930)

District—	No. of plants Nov. 1	Daily crude cap Nov. 1	Daily crack cap Nov. 1	Plants Oper. Nov. 1	Runs to stills Nov. 1	Plants Oper. Oct. 1	Runs to stills Oct. 1	Daily decrease Nov. 1
Arkansas	9	47,800	16,750	9	27,400	9	27,600	200
Kansas	15	142,000	77,400	14	82,500	14	86,800	4,300
North Louisiana	6	59,250	21,000	5	31,450	5	31,440	*10
Oklahoma	52	330,300	117,050	47	192,800	45	199,250	6,450
No. & Cent. Texas	40	186,900	34,750	37	106,600	35	106,050	*1,550
West Texas	32	151,300	44,700	27	65,950	26	68,660	2,710
Total	154	917,550	311,650	138	506,700	134	518,800	12,100

*Increase.

In adopting the lower schedules, refiners are making every effort to balance refinery runs with the demand for refinery products in hopes of stopping the gradual decline of prices that has taken place since early in May.

The total changes for the Mid-Continent area will average 506,700 bbls. per day for November compared with 518,800 bbls. for the previous month. Oklahoma and Kansas refiners are responsible for the greater part of this decrease, while West Texas shows a reduction of 2,710 bbls. daily. The North Central Texas group of refineries is the only one to show any increased activity. The posting of abnormally low crude prices in October by a few refineries, particularly those in the Wichita area, enabled them to better meet the low level of refined oil prices and the present higher crude schedules is probably a reflection of this fact.

Oklahoma Operations

Oklahoma refiners have reduced their November runs 6,450 bbls. compared with October despite the starting up of two more plants. A small part of the reduction is also due to prorating crude in a few areas and this factor may cause a further reduction in runs depending upon conditions after the order has been placed in routine operation. Included in the list of changes in the operations during November are the starting up of the Oklahoma City plant of the Crump Refineries, Inc., and the Illinois Oil Co. plant at Cushing. The Crump refinery expects to maintain a schedule of approximately 1,200 bbls. of crude daily during the month. This is the sixth plant to operate in the new Oklahoma City Field. The Illinois Oil Co. plant has been idle for many months but accompanying the announcement that operations were to be resumed was the statement that the plant would be doubled in size to run 5,000 bbls. daily. This work is now in progress.

The Sunray Oil Co. is also increasing the capacity of its plant at Allen by adding a 3,500-bbl. topping unit. This will bring the total capacity of the plant to 6,500 bbls. The only other important change under way in regard to increasing the capacity of Oklahoma plants is the addition of a 5,000-bbl. combination topping and vacuum reducing unit at the Ponca City refinery of the Empire Oil & Refining Co. The construction work is well under way and the operation of the new equipment is scheduled for January 1. This will raise the total capacity of the Ponca City plant to 12,000 bbls. daily.

North Central Texas

The North Central Texas group of refiners has increased its schedule of runs for November to 106,600 bbls. daily. This is only a slight increase over those of October but is contrary to the trend in the other important Mid-Continent refining groups. The addition of one new refinery and the starting up of the Orient Petroleum Co. plant at Wichita Falls, accounts for the increase. The new refinery is operating under the name of the Taylor Refining Co. and is located at Taylor, Texas. The plant has a capacity of 6,000 bbls. and has begun operating on a schedule approximating 2,000 bbls. per day.

West Texas Operations

West Texas refinery runs were decreased 2,710 bbls. in November. One refinery was shut down in this area and one resumed operations. The shut-down plant is that of the Richardson Refining Co. at Big Spring. The plant again placed on an operating schedule is the Magnolia Petroleum Co. refinery at Luling. This will run approximately 2,000 bbls. per day during November.

North Louisiana and Arkansas

There were no important changes in the refinery operations in either the North Louisiana or Arkansas areas. The crude schedules of the individual plants have been held very nearly constant and there is no appreciable change in the total runs.

Kansas

Kansas Refineries show a decrease in their November runs of 4,300 bbls. This has been brought about by a general curtailment of operations throughout the State. Except for this general program, there is no change in the Kansas refining operations.

REFINERY OPERATIONS IN OKLAHOMA

(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Runs Nov. 1	Runs Oct. 1
Anderson-Prichard Oil Co., Cyril	5,000	4,500	3,500
Barnsdall Refineries, Inc., Barnsdall	6,000	3,500	3,600
Barnsdall Refineries, Inc., Okmulgee	10,000	3,500	3,500
Bell Oil & Gas Co., Grandfield	4,500	1,500	1,400
Black Gold Refining Co., Oklahoma City	1,500	600	600
Capitol City Refining Co., Oklahoma City	2,500	300	(*)
Champlin Refining Co., Enid	16,000	13,000	13,000
Citizens Refining Co., Seminole	1,000	(*)	(*)
Continental Oil Co., Sapulpa	10,000	1,500	1,500
Continental Oil Co., Ponca City	30,000	15,000	18,000
Crump Refineries, Inc., Oklahoma City	2,000	1,200	(*)
Cushing Refining & Gasoline Co., Blackwell	1,800	1,000	1,500
Cushing Refining & Gasoline Co., Cushing	3,500	2,000	3,000
Deep Rock Oil Corp. (Shaffer), Cushing	10,000	10,000	10,000
Eason Oil Co., Enid	5,000	2,000	3,500
Electrol Refining Co., Oklahoma City	3,000	500	400
Empire Oil & Refining Co., Cushing	5,000	(*)	(*)
Empire Oil & Refining Co., Okmulgee	4,000	4,000	4,000
Empire Oil & Refining Co., Ponca City	8,000	6,500	7,500
Garber Refineries, Inc., and Omar Refining Co., Garber	3,500	2,500	2,800
Globe Oil & Refining Co., Blackwell	7,500	5,500	6,000
Globe Oil & Refining Co., Cushing	15,000	6,000	6,000
Gulf States Refining Co., Oklahoma City	2,500	1,000	1,200
Illinois Oil Co., Cushing	3,000	2,000	(*)
Imperial Refining Co., Ardmore	5,000	3,000	3,300
Independent Oil & Gas Co., Okmulgee	5,000	3,300	3,300
Johnson Oil Refining Co., Cleveland	6,000	5,000	6,500
Mid-Continent Petroleum Corp., West Tulsa	40,000	20,000	20,000
Marathon Oil Co., Boynton	2,500	(*)	(*)
Marathon Oil Co., Bristow	5,000	3,500	3,500
Northwestern Refining Co., Tonkawa	3,000	(*)	(*)
Peacock and Peveto Refining Co., Oklahoma City	3,000	500	500
Peppers Gasoline Co., Covington	1,000	700	700
Producers Oil Co., Bristow	2,500	1,300	1,300
Producers & Refiners Corp., West Tulsa	6,000	4,000	4,000
Pure Oil Co., Ardmore	5,000	2,000	2,200
Pure Oil Co., Muskogee	9,000	6,000	6,000
Wewoka Refining Co., Wewoka	2,000	500	300
Rock Island Refining Co., Beckett	3,500	3,500	3,500
Sinclair Refining Co., Muskogee	1,000	400	600
Sinclair Refining Co. (Pierce), Sand Springs	8,000	6,500	6,800
Sun Oil Co., Yale	5,000	4,500	4,300
Sunray Oil Co., Allen	3,000	2,100	2,300
The Texas Company, West Tulsa	15,000	15,000	15,000
Texas Pacific Coal & Oil Co., Wynnewood	2,500	1,600	1,600
Tidal Oil Co., Drumright	15,000	10,000	10,000
Western Oil Corp., Beckett	2,000	1,500	1,500
White Oak Refining Co., Allen	8,000	3,000	4,750
Wilcox Oil & Gas Co., Bristow	5,000	2,500	3,000
Wirt Franklin Petroleum Corp., Ardmore	4,000	2,500	2,520
Yale Oil Corp., Yale	1,000	1,000	1,000
Total	330,300	192,800	199,250

*Shut down.

REFINERY OPERATIONS IN ARKANSAS

(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Runs Nov. 1	Runs Oct. 1
James H. Berry & Sons, Waterloo	2,000	1,200	1,200
Henry H. Cross Co., Smackover	6,000	4,000	4,000
Houston Oil Co., Camden	6,000	2,800	3,500
Kettle Creek Refining Co., Pearson	5,000	2,000	2,000
Lion Oil & Refining Co., El Dorado	12,000	8,000	6,500
Macmillan Petroleum Products Co., Norphlet	1,800	1,800	1,600
Ouachita Valley Refining Co., El Dorado	2,000	300	300
Root Refining Co., El Dorado	10,000	5,000	6,000
Simms Oil Co., Smackover	3,000	2,000	2,000
Total	47,800	27,400	27,600

REFINERY OPERATIONS IN WEST TEXAS

(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Runs Nov. 1	Runs Oct. 1
Amarillo Producers & Refiners Corp., Pyote	3,000	(*)	(*)
Big Spring Refining Co., Big Spring	2,500	1,000	1,000
Big Lake Refining Co., Big Lake	3,000	(*)	(*)
Bluebonnett Oil Refining Co., Wickett	5,000	(*)	(*)
Burford Oil Co., Pecos City	6,000	4,500	4,500
Coltex Refining Co., Colorado	10,000	6,500	6,200
Cosden Oil Co., Big Spring	15,000	7,500	7,000
Deer Oil Corp., Brownwood	2,000	500	500
Deer Oil Corp., Luling	2,500	2,000	2,000
Del Rio Refining Co., Del Rio	5,000	2,500	2,500
Grayburg Oil Co., San Antonio	6,000	2,000	2,000
Great West Refining Co., Big Spring	8,500	3,000	3,000
Gulf Oil & Refining Co., Sweetwater	5,000	5,000	5,000
Huber Refining Co., Kingsmill	3,000	400	400
Humble Oil & Refining Co., San Antonio	5,000	1,950	2,100
Humble Oil & Refining Co., McCamey	15,000	5,000	9,000
Magnolia Petroleum Co., Luling	3,000	2,800	(*)
Misko Refineries, Inc., Laredo	1,500	500	500
Mid-Tex Refining Co., Midland	2,500	(*)	(*)
Pasotex Petroleum Co., El Paso	10,800	10,000	10,000
Pecos Valley Refining Co., Pyote	8,500	(*)	(*)
Pioneer Oil & Refining Co., Somerset	1,500	900	900
Richardson Refining Co., Big Spring	6,000	(*)	1,500
Rio Grande Oil Co., El Paso	6,000	1,800	2,700
San Angelo Refining Co., San Angelo	2,000	200	180
Sweetwater Oil & Refining Co., Sweetwater	2,000	200	200
The Texas Company, San Antonio	3,000	3,000	3,000
The Texas Company, El Paso	2,000	2,000	2,000
Tonkawa Petroleum Co., Pyote	5,000	1,000	1,000
Texas Mexican Oil & Refining Co., Laredo	1,000	500	300
Texas Petroleum Products Co., Somerset	1,500	1,000	1,000
Wickett Refining Co., Wickett	2,500	200	180
Total	151,300	65,950	68,660

*Shut down.

(Continued on Page 135)

Plant Control Centers In Laboratory

High Crude Oil Costs and Diversified Marketing Activities Emphasize Importance of Constant Checking at Utah Refinery

By C. O. Willson

SALT LAKE CITY, Utah, Nov. 1—It is doubtful if there is any refinery in United States in which the laboratory plays a more important part than at the local refinery of the Utah Oil Refining Co. Laboratory control of plant operations has received more and more consideration at practically all refineries during the past few years, but due to the unusual conditions in regard to crude oil supplies and the marketing of refinery products, the management of the Utah company has found it necessary to lay special stress on the work of its corps of chemists, centering the entire operation in the laboratory building.

In the 20 years of successful operation every barrel of crude oil refined at the plant has been transported by tank car, no crude oil supply having been found near enough to the refinery to justify the construction of a pipe line. In its early history the plant requirements were only a few barrels of crude oil daily, but this has been gradually expanded until now the refinery has a rated capacity of 6,000 bbls. daily, operating on that basis part of the year with a minimum of 4,000 bbls. daily. The plant for a brief period has refined in excess of 8,000 bbls. daily.

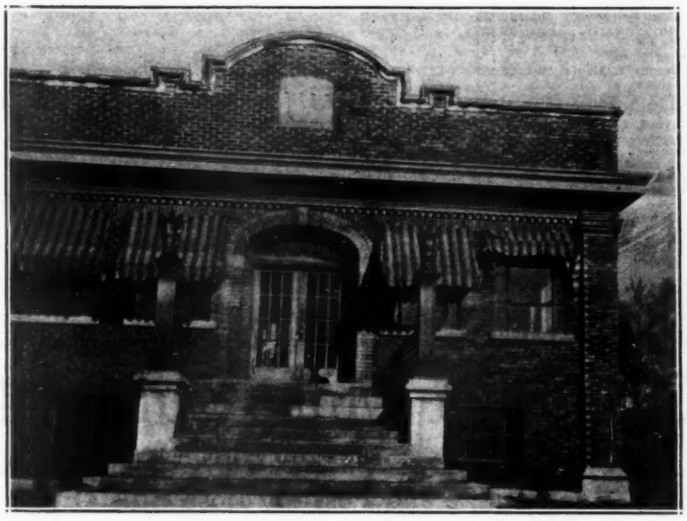
In recent years crude oil has been received by tank car as far east as the Electra, Tex., field in the Mid-Continent and as far west as the Los Angeles Basin fields of California. At present the crude oil supply is coming from several widely scattered fields in the Rocky Mountain territory, including Rock River, Lost Soldier (deep sand) and LaBarge in Wyoming, Cat Creek in Montana, Wellington Dome and Iles Dome in Colorado, and Hog Back and Rattlesnake in New Mexico. The rail rate on some of this crude oil is as high as $1.40 per barrel, to which must be added the posted price of the crude oil at the well, gathering and loading charges, car service and unloading charges at the plant. Thus the refinery has always been confronted with relatively high costs for its raw material.

In addition, as shown in the accompanying tables, there is a wide variation in the quality of the crude oil, a factor in operation not generally appreciated by the refinery owner who operates from year to year on practically the same grade crude oil. The significance of this feature from the standpoint of laboratory control will be discussed later.

Marketing Operations

The numerous products handled by the marketing department of the Utah company also complicates the refinery operation. Due to the high cost of the crude oil it is certain that a refinery whose operations were confined to the manufacture of gasoline, kerosene and the usual products of a light oil plant could not have been operated profitably over the greater part of the time.

Due to this condition it has been necessary to secure the proverbial "squeal" of the packing industry out of the crude oil, and this has been accomplished through constant co-operation between the refining and marketing departments. The aim of the latter has been to satisfy the oil product requirements of this territory. This includes cleaners' and painters' naphthas as well as the regular grades of domestic gasoline, stove and tractor distillates, special gas oils and several grades of asphalt and coke. In the lubricating oil end in addition to the usual grades of motor oils the company for years has manufactured a special line of oils to serve the copper, coal mining and other industries in this territory.



Research and control laboratory at Salt Lake City, Utah, refinery of the Utah Oil Refining Co.

Floor oils and wax polish are among the other special products. The bulk of the paraffin wax is exported. Over 200 products are now being refined and sold by the company.

Plant Equipment

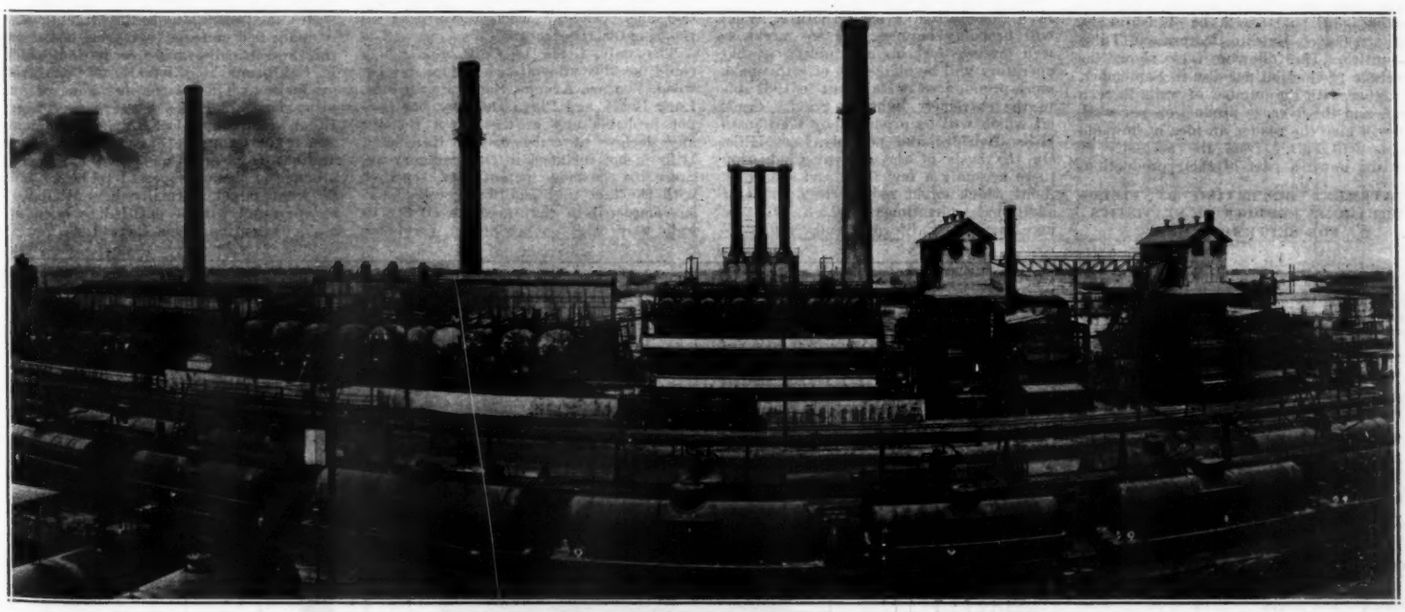
A brief resume of the plant equipment will further illustrate the necessity of co-operation between the laboratory and those in charge of the various phases of operation. A few of the larger plants of the refining industry operate with several grades of crude oils. At these plants, however, the different crudes are kept separate and refined in units specially designed to meet the processing requirements.

At the local refinery, all of the crude oil first goes to a battery of shell stills operated continuously. All the light end products, the wax distillate and the gas oil cracking stock is taken overhead in this battery. The low gravity tar bottoms are removed to a battery of shell stills and run to coke in a batch operation. This battery constituted the first installation of Burton cracking stills of the shell type installed in 1917 at the refinery and were converted for the reducing operation when supplemented with later type cracking stills. The coke, for which there is a ready demand, is sold locally.

All the cracking stock is now charged to two of the modified type of Holmes-Manley cracking stills which are handling in excess of 7,000 bbls. of new and recycle stock daily. The low gravity residuum from this operation is taken to the asphalt plant. A substantial market for asphalt for road making is developing rapidly in the Rocky Mountain area. Different grades are used for the various types of road. The refinery manufactures several grades from 50 to 95 per cent asphalt content and 80 to 150 penetration.

The Pressure distillate from the cracking still after acid treatment is rerun in a pipe still, the bottoms being returned to the cracking still or used in blending for stove distillates. The cracked gasoline from this unit is sweetened, stabilized and run to storage. The company is a licensee of the Ethyl Gasoline Corp. and furnishes this product to its stations and other buyers. In addition to its own outlets, the company sells gasoline on long-time contracts to other large distributors in this territory meeting any specifications required.

(Continued on Page 132)



View at the Salt Lake City, Utah, refinery of the Utah Oil Refining Co., showing developments in cracking during past 13 years. Battery on left consists of nine cracking stills of the Burton shell type installed in 1917 and now used in coking residuum from crude oil battery. Adjoining this battery are 10 Burton stills of the tube and shell type and adjoining this battery on the right is a battery of Burton high-pressure stills. On the extreme right are two units of the modified Holmes-Manley cracking process which now handle practically all the cracking stock at the refinery.

Few Old Pools Escape Curtailment

Oklahoma Corporation Commission's Order Prorating Oklahoma Pools Affects 10,000 More Wells

By James McIntyre

The Oklahoma Corporation Commission, following a series of hearings that lasted about two weeks, ordered a continuance of crude oil production curtailment and proration until December 31, inclusive, along the lines contained in the petition of Wirt Franklin, representing the proration committee of the Mid-Continent Oil & Gas Association.

The order limits production of Oklahoma to 550,000 bbls. per day in October, 545,000 bbls. per day in November and 535,000 bbls. a day in December. Oklahoma City is allowed 131,095 bbls. per day in October, 134,589 bbls. in November and 131,003 bbls. in December. Little change is made in the other heretofore prorated pools, but a provision is made to take from older nonprorated pools enough oil to make it possible to increase Oklahoma City's production from a permitted average of 87,000 bbls. to 131,000 bbls. per day. In the older heretofore nonprorated pools only leases averaging more than 5 bbls. per day per well are affected, and these are allowed a 5-bbl. exemption and only the production in excess of 5 bbls. per day per well is prorated on a basis of 50 per cent; for example, an 80-acre lease with eight wells making a total of 100 bbls. per day is curtailed and prorated so that it will receive an exemption of 40 bbls. per day and the remaining 60 bbls. will be cut to 30 bbls., giving the lease an allowed production of 70 bbls. per day. These pools are called Class A pools.

Affects Most Pools

Curtailing the production of wells of more than 5 bbls. per day production will affect such fields as Burbank and Okmulgee-Beggs; all the pools in the Greater Seminole area that have not been prorated previously; Otoe, Ralston and Masham in Pawnee County; all the pools in Payne, Lincoln, Kay, Noble and Garfield Counties, and all the pools in Carter County; the Comanche, Duncan and Walters districts in Cotton and Stephens Counties; and all the pools in Caddo, Grady, Garvin, Jefferson and Madill Counties. The order will affect about 10,000 wells in Class A pools. About the only areas not affected by the order prorating old pools will be Washington, eastern Osage, Nowata, Rogers and Tulsa Counties. The following table shows the average production per day in September, together with the number of wells in each pool and the average production per well. It will give the reader an idea of how old pools will suffer from the necessity of cutting down a part of their production.

STATEMENT DISPLAYING BY FIELDS OKLAHOMA PRODUCTION STATISTICS FOR SEPTEMBER, 1930

Field—	Daily aver. prod. (bbls.)	Wells prod. as of Sept.30	Aver. prod. per well
Washington	4,784	7,127	0.67
Nowata	4,697	8,119	0.57
Rogers	1,835	4,201	0.43
Total	11,316	19,447	0.58
Osage and eastern Kay Counties:			
Burbank	14,954	2,091	7.15
Osage, outside Burbank	24,817	7,818	3.17
Total	39,771	9,909	4.01
Tulsa and Wagoner Counties:			
Bird Creek, Owasso, etc.	3,060	2,574	1.19
Red Fork, Sand Springs, Turkey Mt., Bruner	1,009	805	1.25
Bixby, Leonard	820	387	2.11
Broken Arrow, Coweta	789	593	1.33
Total	5,678	4,359	1.30
Tulsa, Okmulgee and Muskogee Counties:			
Okmulgee and Beggs	2,113	689	3.09
Mounds	1,168	432	2.70
Bald Hill and Haskell	2,318	1,142	2.03
Morris, Boynton, Cole	1,699	1,121	1.51
Total	7,298	3,384	2.16
Okmulgee, Okfuskee, Seminole, Hughes and Pottawatomie Counties:			
Seminole City	14,469	259	55.86
East Seminole	2,229	33	67.54
Bowlegs	14,728	278	52.97
Little River	24,619	372	66.18
East Little River	12,795	85	150.52
Earlsboro	47,925	472	101.53
Searight	7,283	85	85.68
Mission	6,867	94	73.05
Carr City	8,175	64	127.72
Maud	3,061	135	22.67
Total Seminole Field	142,151	1,877	75.73
Allen	15,478	424	36.50
Konawa	17,378	99	175.53
Asher	9,174	56	163.82
Pearson-St. Louis	24,563	537	45.74
Sasakwa	4,987	51	97.78
Beebe	3,580	88	40.34
Henryetta, Deaner-Lyons, etc.	6,699	918	7.29
Wewoka	3,580	222	16.12
Cromwell	7,111	347	20.48
Papoose-Gilcrease	2,633	163	10.61
Jarvis-Holm	255	43	5.93
Weleetka	940	104	9.03
Yeager	564	20	28.20
Miscellaneous	644	35	18.40
Total	97,586	3,107	31.40
Creek and Tulsa Counties:			
Glen Pool, Jenks, Kiefer	6,336	2,595	2.44
Sapulpa and Fisher	506	208	2.43
Cushing-Shamrock	13,734	2,362	5.81
Bristow, Kellyville and Depew	11,846	1,131	10.47
Pickett Prairie and North Bristow	1,714	536	3.19
Eastern Bristow or Slick	4,421	564	7.83
Total	38,557	7,396	5.21
Pawnee County:			
Cleveland	2,664	760	3.50
Keystone	2,099	300	6.99
Jennings	2,004	406	4.93
Otoe	474	20	23.70
Ralston-Masham	125	11	11.36
Total	7,366	1,497	4.92
Payne County:			
Yale, Quay, Ingalls	3,712	390	9.05
North Cushing	2,595	112	23.16
South Cushing	100	11	9.09
Mehan-Ripley	1,659	19	87.31
Total	8,066	532	15.16
Oklahoma County:			
Oklahoma City	100,739	548	183.83
Lincoln County:			
Stroud	894	51	17.52
Davenport	1,058	198	5.34
Kendrick	198	24	8.25
Chandler	1,638	18	91.00
Total	3,788	291	13.02
Kay, Grant and Noble Counties:			
Blackwell	943	131	7.19
Vernon	716	31	23.09
Otstot	950	58	16.37
Deer Creek	535	17	28.47
Ponca City	565	55	10.27
Mervine	264	24	11.00
Braman	3,044	120	25.36
Hubbard	1,310	59	22.20
Thomas	744	19	39.15
Garrett	6	1	6.00
Tonkawa	6,215	642	9.68
Billings	141	41	3.43
Miscellaneous	1,235	16	77.18
Total	16,668	1,214	13.73
Garfield County:			
Garber	4,748	719	6.60
Logan County:			
Lovell	564	14	40.03
Marshall	4,008	40	100.20
Total	4,572	54	84.66
Carter County:			
Healdton	12,065	1,907	6.32
Hewitt	7,024	824	8.52
Graham	2,444	312	7.83
Brock	902	118	4.25
Fox	2,067	2,067	1.00
Sholom Alechem	14,102	444	31.75
Total	38,604	5,672	6.81
Stephens and Cotton Counties:			
Loco-Milroy	1,445	893	1.61
Comanche	1,760	84	20.95
Duncan	4,121	614	6.71
Walters	3,646	270	13.50
Kilgore	322	46	7.00
Total	11,294	1,907	5.92

(Continued on Page 132)

California Must Curtail More in 1931

Extremely Light Gravity Crude From Kettleman Hills, Belridge and Possibly Lost Hills Offers New Difficulty

By L. P. Stockman

LOS ANGELES, Calif., Nov. 3.—With the end of the current year only two months away operators are no doubt wondering about the future status of California's crude oil curtailment program as the present allowable production of the State is subject to revision on January 1, 1931. No one, of course, anticipates any relaxation in curtailment as unrestricted production could result only in a demoralized price structure. What will probably happen, and we might as well prepare for this eventuality, is that operators will be obliged to effect a much more pronounced curtailment in 1931 due to the extremely light 60 gravity crude oil which will be produced by Kettleman Hills, Belridge and possibly Lost Hills. On the basis of the present production there are only a few flush and semiflush fields which might reduce the amount of additional curtailment which will be necessary in California and, while all producing wells must eventually obey the physical law and ultimately decline, it is doubtful that the axiomatic decline will be of sufficient importance to alleviate conditions to such an extent that a minor curtailment may be made. There is no way of ascertaining just how much of an additional curtailment will be required but it looks as though total state production will have to be reduced below 525,000 bbls. per day when these light oil fields enter the picture.

The only fields in California which could possibly alleviate conditions are Elwood, Ventura Avenue, Santa Fe Springs, Long Beach and Playa Del Rey, but it is not probable any of these will register any decline of consequence. Kettleman Hills is not included in this category because its enormous potentiality, together with the fact that additional wells must be completed in that area as offsets to wells at present on production, precludes any possibility of a normal decline. The situation at Elwood is such that no appreciable decline can be anticipated in this field unless the present flush horizon should suddenly drop off over night. In view of the recent substantial completions at Elwood, this possibility is very remote. The Ventura Avenue Field is in the same category, although the possibility of a sudden decline in this field is even more remote due to the large amount of undrilled acreage and the enormous thickness of oil-bearing formation which in California is axiomatic of long-lived production. This places any hope of improvement on Santa Fe Springs, Long Beach and Playa Del Rey. Both Long Beach and Santa Fe Springs will register declines from now on but the drop in production is not expected to be as fast as what might normally be anticipated as operators will be entitled to open up

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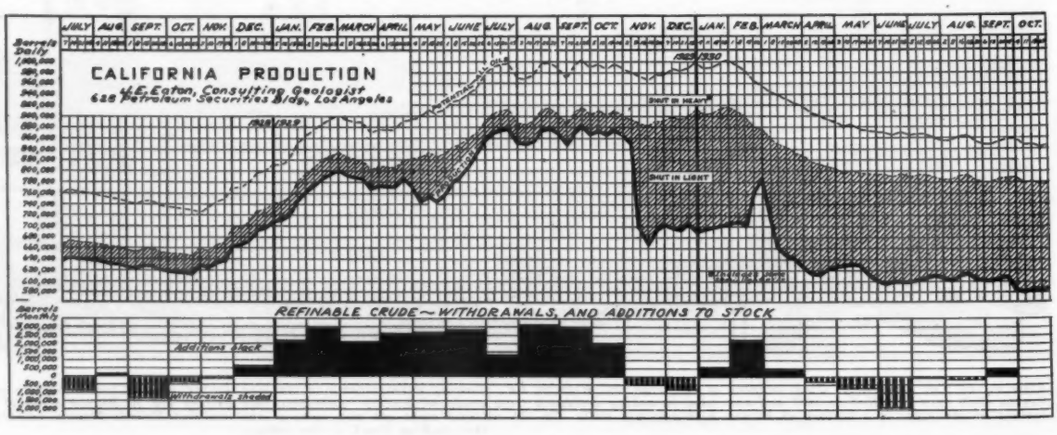

Proration Potentials Are Hard to Secure

Need for Arriving at Capacity of Individual Wells in Pools Now Under Proration Recognized and Offers Interesting Engineering Problems

By L. G. E. Bignell
Petroleum Engineering Editor

With the development of vast quantities of crude oil in excess of the present demands of the country it has become necessary to curtail production of this commodity in practically all fields in the United States and this slowing up of production here has also had its effect on most of the foreign fields, because it has been found that conditions in this country have their effect upon every other oil producing area.

In reality this excess of available crude oil is not a new condition. Tracing back through the history of the industry it will be found that practically since petroleum was first produced through holes bored into the earth to tap underground supplies there has been more oil available than the market for its finished products required.

In the past this condition of overproduction has been met by adjustments created by the pipe line and purchasing companies either in the form of price cuts to discourage drilling or acceptance of only such oil as they could sell or store.

Since 1926, the last high price period for crude oil, there has been an ever increasing amount of oil made available for production because of the highly organized departments of the petroleum industry which have all functioned to develop new pools far in excess of the growing requirements for the finished products made from petroleum. In the main there has been an increase in the demand for petroleum products, but the rate of drilling and development of production has been far in excess of the rate of increased demand and it has therefore become necessary to curb the flow of crude oil from the ground by co-operative measures known as "proration."

Proration Necessary Evil

It is admitted by nearly everyone that proration is in a sense detrimental to the best interests of the petroleum industry, but it is likewise agreed that it is the lesser of the many evils that confront the industry. It is therefore subscribed to by all major companies and also recognized as being necessary by the smaller operators and individuals interested in the production of crude.

In the major oil producing states, California, Texas and Oklahoma, as well as in some of the other states where smaller amounts of petroleum are produced there are State commissions who are taking charge of the details of proration and the United States Government is also lending its support to this movement through its Federal Oil Conservation Board and a special committee appointed earlier in the year to make report on the probable requirements for the year and recommend to each of the states its share of this total amount.

Changes have been made from time to time in the allowable amounts of oil to be produced from the various states and from the different pools within the states and this balance in production is helping to stabilize the market conditions and prevent the production of excess crude oil that would of necessity have to be put into storage.

Securing Potentials Difficult

The operators in the larger producing states have aided in this conservation movement by the work of committees made up of representatives of the producers who have met to decide the amount of oil to be produced from the pools under proration and the decisions of these meetings are being enforced by the state conservation bodies.

The problem that is facing everyone interested in this movement is the one of arriving at the proper potential of the wells within the pools that are being prorated and as this should be based upon the capacity of the well under open flow conditions and such conditions are difficult to secure when the field is prorated, the engineers have been forced to devise means of estimating potentials that will meet these requirements.

At this time there seems to be no known formula that can be applied to this problem whereby the flow of a well through tubing or under back pressure will give an equitable proportion of the open flow capacity of the well.

In Oklahoma a new ruling governing wells of 5 bbls. or more capacity has just been put into effect and to prorate these smaller wells, most of which are now on the pump, it has been decided to take the pipe line runs from each lease for the months of July, August and September of this year and secure an average and use this as the potential of the wells for November.

The pipe lines and purchasing companies are co-operating in this work by submitting tabulations of all runs made by them over these periods and this method is being worked out by the umpire for the district.

If a lease has eight wells making 100 bbls. total per day each of these wells will be allowed to produce 5 bbls. daily or a total of 40 bbls. This amount will be deducted from the average production of the wells, 100 bbls. per day, and the 60 bbls. secured by this deduction will be prorated 50 per cent or 30 bbls., and this amount added to the 40 bbls. of production secured by multiplying the number of wells by 5 bbls. and the allowable production for a lease of this kind will therefore be 70 bbls. daily.

In this case it is possible to take known productions under normal operating conditions as a guide to the proration allotments and it is planned to determine equitable depletion curves for these smaller wells and deduct a given percentage from the flow from month to month as it is estimated the wells fall off in their normal production capacity.

In prorating the Seminole area a somewhat similar method was followed for wells were gauged over a period of 15 days under full flow conditions and this averaged to give the potential of the well when first brought into production. It was then estimated that the decline of such a well would be 3 per cent per month and this amount was deducted from the well's potential without again resorting to open flow conditions.

The August and September, 1929, production was again taken as a basis for average for the proration amounts for October, 1929, and it was found that the previous estimates had been fairly accurate and the 3 per cent decline per month was continued in force.

In other pools in Oklahoma where flush production was being brought in daily it was customary to gauge the wells once a month by open flow method and then prorate its production from this gauge.

In the Oklahoma City Pool it has been necessary to enforce proration almost from the first and this has been accomplished by allotting to that field a given amount of the total production to come from Oklahoma and then assigning to each well a period during which it could produce wide open.

This method of producing the wells wide open for a short period and then shutting them in again is not in accordance with the best production practices as recommended by production men and engineers but under the conditions that existed there when the proration ruling was put into effect it was a compromise agreement and has served fairly well to effect a reduction of production from this area.

At this time the wells are divided into groups known as "A," "B," "C," etc., up to "H," and wells in each group have been assigned days upon which they can flow their full production for eight hours. The interval between flows is now 12 days so each well in the field is allowed to run a full day's production every 36 days, or in three daily eight-hour flows at intervals of 12 days each. In some cases it has been found that wells will flow nothing but gas for the first four or five hours of their eight-hour flow period, but this type of well is the exception rather than the rule and on the whole the plan is working out quite satisfactory.

The problem of securing the full potential of the field is still one that is open to much discussion for with these short flows it is almost impossible to judge of the well's true capacity and without a settled flowing condition from each well and lease it is impossible to make estimate of what this field could produce daily if permitted to flow wide open. It has been estimated that it will make 2,800,000 bbls. daily but many operators think this figure is rather high.

West Texas Conditions

In the Permian Basin limestone areas of West Texas there has always been an excess of oil because the demand for this sulphur crude has never been quite as great as for the sweet oils from other fields. This condition has led to the laying of a limited number of pipe lines into this field and this condition has in itself been a determining factor in establishing the amount of oil that could be taken daily from many of these pools. Proration has been effective in most of these pools from the time they were first opened and to some extent it has been governed by pipe line outlet capacity from the pool but other conditions have entered into the problem to complicate it, for the allocation of the total runs

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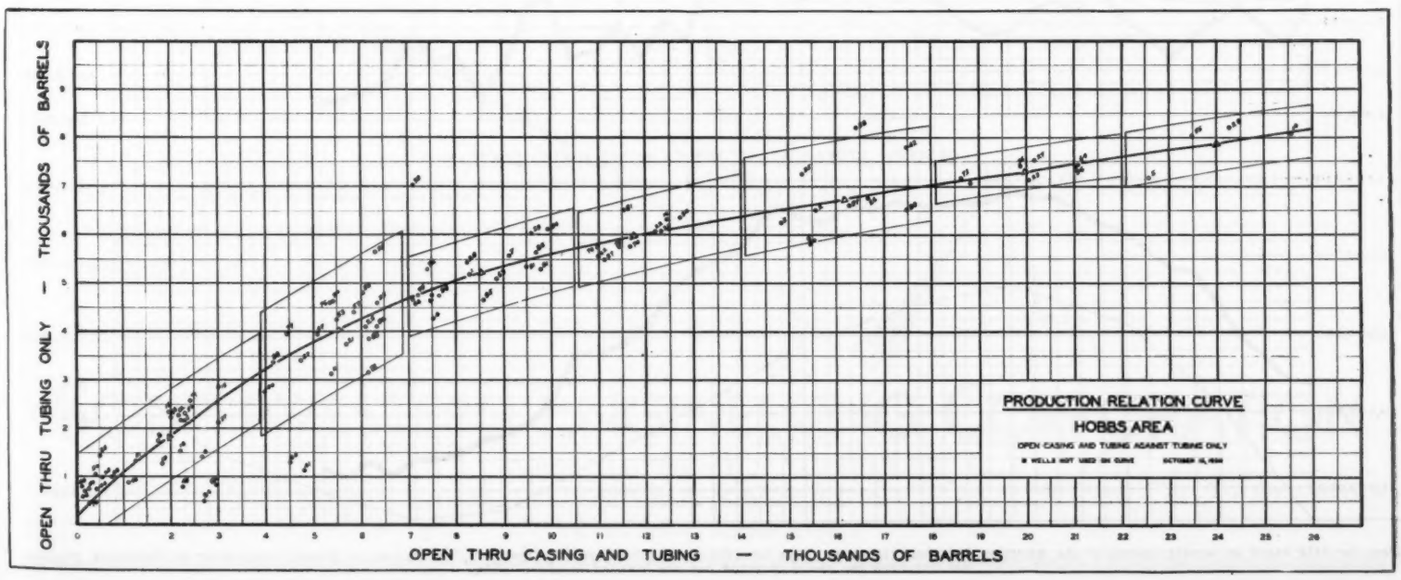

OPEN THRU TUBING ONLY — THOUSANDS OF BARRELS
OPEN THRU CASING AND TUBING — THOUSANDS OF BARRELS
PRODUCTION RELATION CURVE
HOBBS AREA
OPEN CASING AND TUBING AGAINST TUBING ONLY

Theory of Mechanics of Explosives

Proper Choice and Application Are Most Important Factors in This Interesting Phase of Oil Field Work

By Paul F. Lewis
American Glycerin Co., Inc.

Explosives engineering as applied to oil well shooting is a subject worthy of serious thought and study by the industry, that feature of oil well operation having, in the past, been rather sadly neglected. In line with that thought, it must be conceded that in the final analysis, production with safety, is largely dependent upon proper choice and application of explosives, where the physical conditions of the oil bearing strata indicate a need for them.

It is not the purpose of this article to deal with the mechanics of application or with a description of the paraphernalia for such application, that phase of the subject having been most ably covered by C. O. Rinson in his "Manufacture of Nitroglycerin and Use of High Explosives in Oil and Gas Wells," but rather, to explain the action of explosives so as to enable the operator to make an intelligent choice of explosives to meet particular conditions and then apply the explosive best suited, in such manner as to insure the best possible results and the safety of the worker and equipment.

In dealing with this subject, it must be borne in mind that the author is obliged to handle it in its broad sense, each well being a problem unto itself, to be dealt with as conditions encountered and objectives sought might indicate.

It is the author's hope and belief, that with a knowledge of the basic principles of the action of explosives, the operator can choose an explosive best fitted for his particular need, and so apply it as to at least approximate the results desired.

Needless to say, no explosive will cause oil or gas to flow where none exists, though it sometimes happens that production is reduced or stopped by shooting and in some such cases the explosive is unjustly blamed.

Cause to Effect

As a first step in choosing an explosive and a method of application, we must consider what we want to accomplish. In this connection, there is considerable variance of opinion among practical production men; i.e.:

1. Some feel that the gases evolved by the explosion, rushing up and out of the hole, causes a partial vacuum which draws the oil from the oil bearing strata.
2. Others feel that the shock of the explosion with resulting vibrations causes effervescence of the gas charged oil, causing it to bubble out of the hole like a carbonated beverage out of a bottle.
3. Again others feel that the shock of explosion sets up vibratory waves of disruptive intensity, which tends to so break down the strata as to open up innumerable avenues of escape for the more or less gas charged oil.

There are other ideas too numerous to mention.

Exactly what does take place is as yet an unknown quantity and the writer does not presume to say, inclining however toward Theory No. 3 as the causes with Theories 1 and 2 as the effect.

Assuming Theory No. 3 to be correct for the moment, we must next determine from examination of the drillings or cores of the strata to be shot, what kind of blow must be administered in order to get the degree of breakage or fragmentation desired.

While there are certain well defined rules for choosing explosives for surface blasting, they are not generally adaptable to deep well shooting, consequently the choice of explosives must of necessity be determined by experience and experimentation. While that statement sounds rather indefinite, yet once determined for a pool or particular locality and properly recorded, forms a very good index for future calculations.

While as previously stated, we do not know positively just what does happen at the bottom of a well when an explosion takes place, we do know something of the action and effects of various explosives on a wide range of rock structures. We know positively that no single explosive will serve every explosive need, yet fully 90 per cent of all wells shot are

(Continued on Page 150)

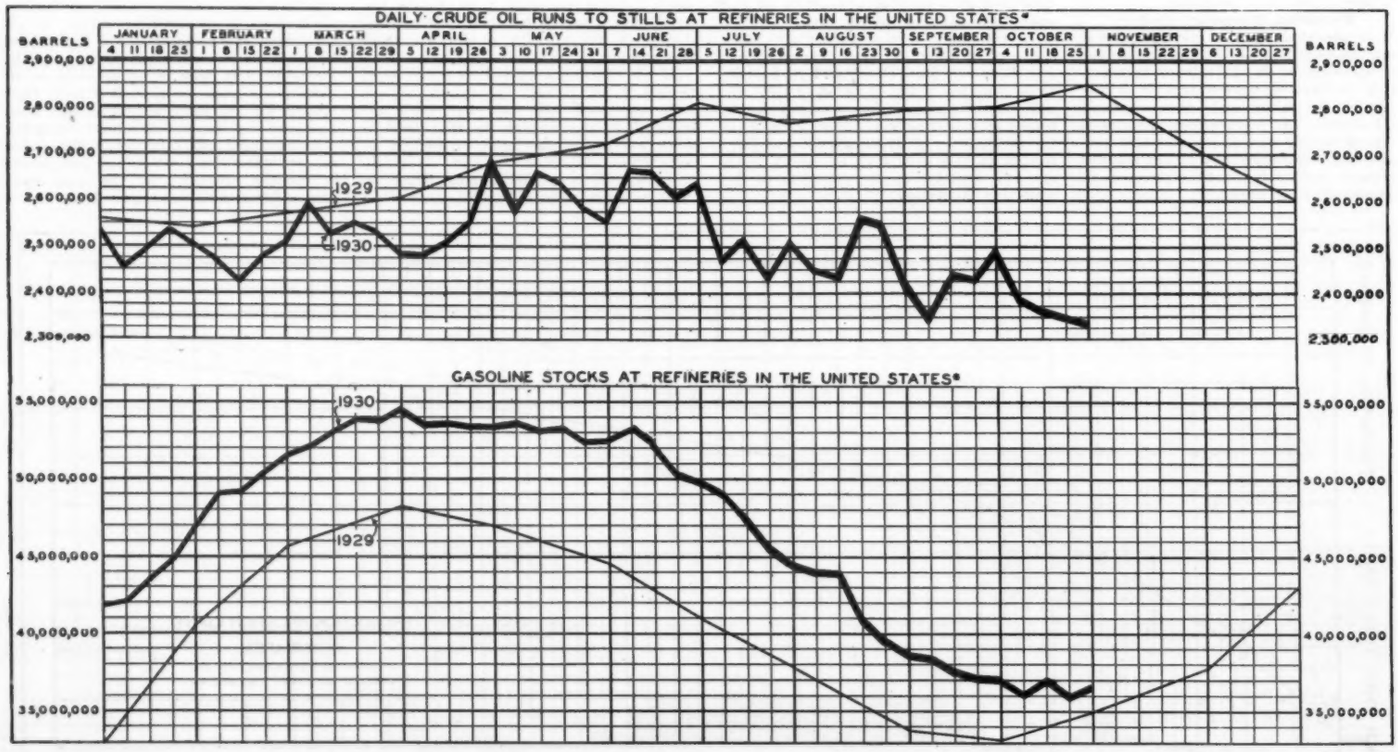
AMERICAN PETROLEUM INSTITUTE WEEKLY REFINERY STATISTICS

The weekly report made to the American Petroleum Institute on refinery statistics—crude runs to stills, gasoline stocks and gas and fuel oil stocks in barrels—for the week ending October 25.

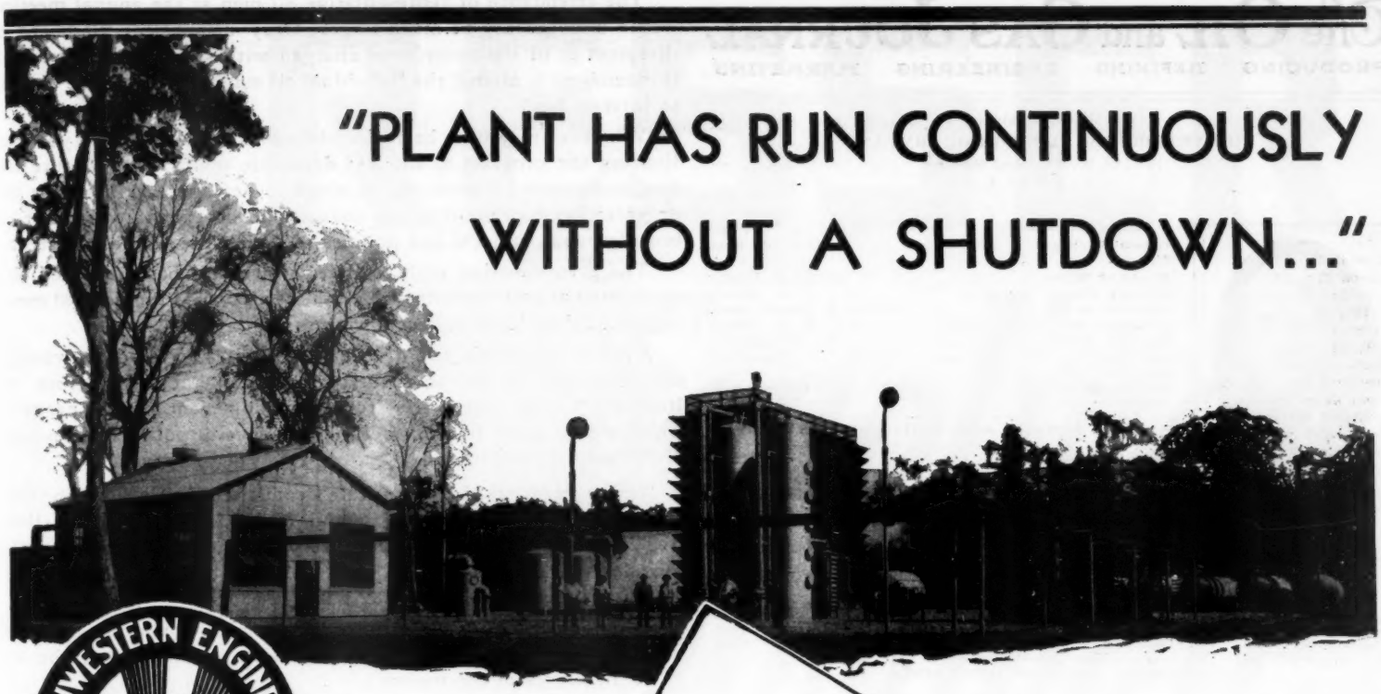
	Week ending October 25				Week ending January 4			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
East Coast	100.0	474,600	5,702,000	11,937,000	100.0	454,857	5,998,000	7,431,000
Appalachian	93.2	75,700	829,000	1,018,000	91.6	76,571	1,282,000	805,000
Indiana, Illinois, Kentucky	97.5	258,100	4,916,000	4,141,000	98.6	289,800	5,483,000	3,505,000
Oklahoma, Kansas, Missouri	89.4	255,300	2,434,000	4,691,000	87.7	263,428	3,604,000	3,277,000
Texas	91.9	525,000	6,196,000	10,479,000	90.7	539,857	6,590,000	13,757,000
Louisiana and Arkansas	98.3	165,900	1,010,000	2,206,000	96.8	160,000	2,161,000	4,499,000
Rocky Mountain	93.1	50,400	1,648,000	1,081,000	93.3	41,614	2,273,000	973,000
California	98.3	537,400	13,920,000	103,914,000	99.3	642,857	14,826,000	109,770,000
Total United States	95.6	2,342,400	36,655,000	139,467,000	95.4	2,468,285	42,217,000	144,017,000
Texas Gulf Coast	100.0	339,400	4,992,000	7,654,000	100.0	429,585	5,579,000	10,792,000
Louisiana Gulf Coast	100.0	107,100	772,000	1,310,000	100.0	108,514	1,377,000	3,818,000

Figures for the week ending November 1 delayed on account of Election Day.

(1) Per cent of refinery capacity represented. (2) Daily crude runs to stills. (3) Gasoline stocks. (4) Gas and fuel oil stocks.



*Data for 1930 based on weekly reports of the American Petroleum Institute. Data for 1929 derived from monthly reports of the Bureau of Mines, Department of Commerce. Figures for last week not shown in graph but are included in above tables.



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CHANGE IN A.P.I. MEETINGS

The annual meeting of the American Petroleum Institute which is to be held at Chicago next week may be the last of its kind.

If the Board of Directors or Executive Committee approves the recommendations of the Institute's Division of Production, Refining and Marketing these divisions will hold mid-year meetings at different times and places thus relieving the annual meetings from a mass of detail and divisional work which leaves little time for the general sessions.

The need for some such separation has long been apparent to all who have attended the annual meetings of the Institute. The program has, of necessity, been so crowded with details of divisional interest that one general session and the annual banquet were the only occasions on which the bulk of those attending could meet on common ground.

But this monopolizing of the annual meeting by committee work was as unsatisfactory to the committees as it was to the general attendance. Committeemen found the schedule so crowded that several committees had to meet in advance of the general meeting and some after its close while between times others had to hold night sessions, or early morning meetings and even encroach upon luncheon periods.

It was the haste and inconvenience of these hurried sessions which led the three divisions of the Institute to suggest that it might be better to have mid-year meetings of the respective divisions at different times and places when there would be ample time for thorough work undistracted by the attractions of the general meeting of the Institute.

There is not the slightest doubt that some such arrangement will make for better accomplishment as well as for greater convenience.

While there are many of the problems in each division which are of interest to other divisions that phase can be covered in the general meeting of the Institute where it properly belongs.

On the other hand the annual meeting, freed from the necessity of ordering its program to suit the necessities of the various committees and divisions engaged in discussing their individual problems, will become a forum for the industry rather than a mere meeting place for committees.

The attendance of representative oil men at the annual meeting would undoubtedly be much larger. Only members of the board of directors or of the committees charged with special work have felt it incumbent to attend, the individual oil man having but one session to interest him.

Whatever may have been the advisability in the earlier years of limiting the program to the less debatable topics the Institute has now made such progress and attained so definite a standing as the organization representing the industry to be free to speak out on broad general subjects and policies affecting the whole industry.

The preoccupation with committee meetings has prevented this realization at past meetings which in effect placed the general meeting in a subordinate or secondary position.

Even if the Institute's divisions had not suggested the change the developments in the industry demanding attention from the Institute would have forced some rearrangement of the program which would allow for consideration of general policies at sessions of the annual meeting.

The segregation of the Institute's committee activities into three divisions, Production, Refining and Marketing, was an excellent step but made all the more necessary a general program for the consideration of interrelated questions and the promotion of coordination among these divisions.

In the meetings of the divisional committees matters are constantly coming up affecting other divisions which can only be adjusted in a general discussion.

Beyond that, there are broad issues involving the whole industry in all its branches which have not been able to receive the attention they required owing to the overcrowded programs for the annual meetings.

These meetings, held towards the close of the year, will offer opportunity for consideration of whatever matters may be developed before the mid-year divisional meetings and the formulation of general policies that may arise out of these questions.

From the standpoint of public relations and publicity the change should be a distinct improvement. The annual meeting of the representative organization of an industry of the national importance of the oil industry should get more attention in the daily press than it has been obtaining.

The usual program, filled with technical papers and meetings of committees, offers nothing of interest to the general newspaper reader and as a consequence the publicity given to the Institute's annual session in the daily press is either a perfunctory notice or an attempt to sensationalize some misquotation.

With a program covering broad general subjects and policies there would be a splendid opportunity to get the industry's case before the public. Great progress has been made in this direction in recent years but there is need for much more.

It was perhaps to be expected that with the decline in values following the stock market crash and the resulting revival of thrift there should be a resumption of the political agitation over gasoline prices.

An uninformed public, reading of vast stocks of crude and refined products, jumps to the conclusion that motor fuel should be cheaper, not knowing that both crude and gasoline are being disposed of by producers and refiners at distress prices, crude oil being the lowest in 15 years.

The unthinking public may have forgotten that gasoline was one commodity which did not soar in price during the years of the speculative boom and consequently has not had to come down to be in line with present day prices for other commodities which have had to be lowered from fancy figures.

The annual meeting of the Institute presents an opportunity for plain speaking on this and other aspects of the oil business which the public ought to understand.

The period of transition through which the industry is now passing is bringing up many important issues which will require the support of an enlightened public opinion. More general sessions of the Institute at the annual meeting would focus attention upon these discussions.

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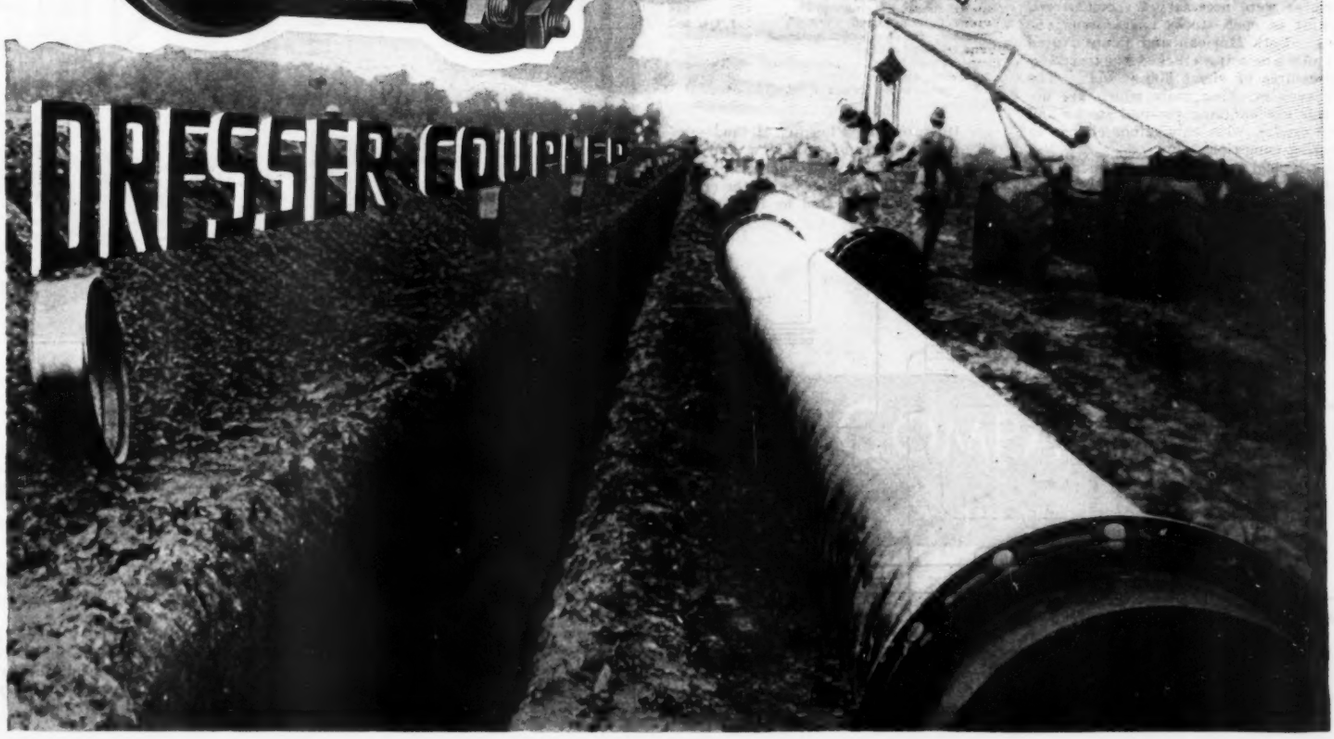


Crack Mexican Stock at Low Pressure

Operation Performed at 300 Pounds Produces More Than 60 Per Cent Motor Fuel of Better Than 60 Per Cent Benzol Equivalent

By Gustav Egloff and E. F. Nelson
Research Laboratories of Universal Oil Products Co.

One of the most important developments in refining is the commercial cracking, at relatively low pressure, of Mexican kerosene stock to produce more than 60 per cent motor fuel of better than 60 per cent benzol equivalent.

This commercial operation followed the demonstration that Pennsylvania paraffinic light oil, though differing in chemical characteristics from the Mexican naphthenic kerosene stock, but resembling it in being highly refractory, could be converted successfully without resorting to extreme pressures.

LIGHT OIL CRACKING AT LOW PRESSURE

Mexican kerosene stock is being cracked commercially every day at pressures of 300 pounds and below.

In one commercial test a Dubbs unit cracking Mexican kerosene made a continuous run of 23 days, producing 64.9 per cent of motor fuel of 60 per cent benzol equivalent. Pressure during this test was 300 pounds; temperature, 892° F. A total of 54,912 bbls. of kerosene was put through. By-products were tractor fuel, fuel oil and gas.

Characteristics of charging stock were: Specific gravity, 0.837; A. P.I. gravity, 37.5; per cent sulphur, 0.873; per cent sediment and water 0.10; initial boiling point, 329° F.

Characteristics of the cracked distillate were: Specific gravity, 0.781; A.P.I. gravity, 49.7; per cent sulphur, 0.36; initial boiling point, 97° F.; 10 per cent off at 192° F.; 50 per cent off at 345° F.; endpoint, 509° F.

These two achievements have effectively exploded the theory held by many petroleum technologists that very high pressures were necessary for commercial cracking of such stocks as kerosene distillate. Both Mexican and Pennsylvania light oils are being cracked commercially at pressures of about 300 pounds. The same type cracking units which are doing this are handling residual stocks and heavy crudes, with only minor change in operating conditions.

One typical commercial test, using the cracking process on Mexican kerosene stock, during 23 days of continuous operation produced as an average 64.9 per cent of motor fuel having over 60 per cent benzol equivalent. This was accomplished at an average daily rate of 2,339 bbls. while operating at pressure of 300 pounds and temperature of 892° F. A total of 54,912 bbls. of kerosene stock was converted continuously by the cracking process into motor fuel, tractor fuel, fuel oil and gas in a Mexican refinery.

Mexican Kerosene Analysis

The Mexican kerosene is of naphthenic characteristics. It shows 83 per cent boiling below 572° F. and analyzed as follows by the A.S.T.M. 100 cc. distillation:

Specific gravity	0.837
A.P.I. gravity	37.5
Sulphur per cent	0.73
Basic sediment and water per cent	0.10

DISTILLATION RANGE

	°C.	°F.
Initial boiling point	165	329
Per cent distilled over:		
10	187	369
20	204	399
30	220	428
40	238	460
50	244	471
60	258	496
70	276	529
80	289	552
90	310	590
98	355	671
83 per cent distilled over at	300	572

SUMMARY OF CRACKING DATA

1. Throughputs and Yields of Products

Kerosene stock (total bbls.)	54,912
Barrels per day on stream	2,339
Cracked distillate (total bbls.)	44,854
Per cent of kerosene cracked	81.7
Cracked residuum (total bbls.)	6,446
Per cent of oil cracked	11.7
Coke (total tons; 1 ton = 2,000 lbs.)	7.15
Coke (lbs. per bbl. oil cracked)	0.26
Gas, coke and loss (per cent)	6.6
Gasoline (total bbls.)	35,618
Barrels per day on stream	1,517
Per cent of oil cracked	64.9
Furnace or Diesel oil or tractor fuel (total bbls.)	7,222
Per cent of oil cracked	13.1
Distillation loss of cracked distillate basis of oil, per cent	3.7

2. Operating Conditions

Pressure (lbs. per sq. in.)	300	
	Temp. °C.	Temp. °F.
Transfer liquid to reaction chamber	478	892
Vapors to dephlegmator	452	846
Vapors to condenser	261	502
Combined feed to heating tubes	433	811
Furnace—above tubes	691	1,276
Time from fire to producing cracked distillate	7 hrs.	
Time producing cracked distillate	563.5 hrs.	

Operation by Flashing Method

The flow diagram, plan view and side elevation, together with photographs, illustrate the apparatus in which the cracking process was operated by flashing the cracked residue. The method of operation follows:

The Mexican kerosene distillate is pumped into the flash dephlegmator wherein heat is interchanged with the vapors flashed from the cracked residuum. The mixture of heated kerosene distillate and condensed vapors is then pumped into the dephlegmator wherein further heat exchange takes place with the cracked vapors from the reaction chamber. The mixture of kerosene, flashed vapors and reflux condensate is passed to the heating coil by means of a hot oil pump. The temperature of the oil entering the coil is approximately 810° F. The oil flows through the heating coil, reaching a temperature of approximately 890° F. as it passes into the reaction chamber. The hydrocarbon vapors from the chamber enter the bottom of the dephlegmator at a temperature of about 845° F.

The cracked vapors leaving the top of the dephlegmator at about 500° F., pass through a cooling coil and thence to a receiver where they are collected as a liquid product and gas. The pressure of 300 pounds on the cracking system is controlled by release of the excess gas produced. This gas is used to fire the pressure still, and the excess, when produced, is utilized in other parts of the refinery. The pressure distillate is degassed by reduction in pressure in a secondary receiver not shown. To maintain constant temperature of the vapors at the top of the dephlegmator, a portion of the pressure distillate is pumped back in controlled amounts.

The cracked residue is subjected to reduced pressure as it leaves the bottom of the reaction chamber passing to the flash chamber. The cracked residuum is partially vaporized in the flash chamber, the very light vapors passing through a water condenser and thence to storage. The flashed residue flows or is pumped to storage.

Chemical Treatment of Distillate

The cracked distillate is commercially treated by means of sodium plumbite, sulphuric acid and water, and again with plumbite solution. This is called the "split plumbite" method of refining.

The cracked distillate is agitated with 1 to 1.5 per cent of 20° Be. sodium plumbite solution by volume of the oil. The distillate is then thoroughly water-washed. Sulphuric acid of 60° Be. is agitated with the cracked distillate at the rate of 4 per cent by weight of the cracked distillate. The acid-treated oil is thoroughly washed with water. After water-washing, the cracked oil is again treated with 1 to 1.5 per cent by volume of 20° Be. sodium plumbite solution.

After chemical treatment the cracked distillate is pumped to a pipe still wherein fractionation takes place into motor fuel and Diesel or furnace oil or tractor fuel. The motor fuel fraction is finally treated with 6°-8° Be. caustic soda solution.

Cracked Distillate Analysis

The cracked distillate analyzed by the Hempel glass bead column method gave the following properties:

Specific gravity	0.781	
A.P.I. gravity	49.7	
Sulphur, per cent	0.36	
	Temp. °C.	Temp. °F.
Initial boiling point	36	97
Per cent distilled over:		
10	89	192
20	117	243
30	138	280
40	155	311
50	174	345
60	187	369
70	202	396
80	220	428
Endpoint	365	509
Bottoms, per cent	1.5	
Distillation loss, per cent	4.5	

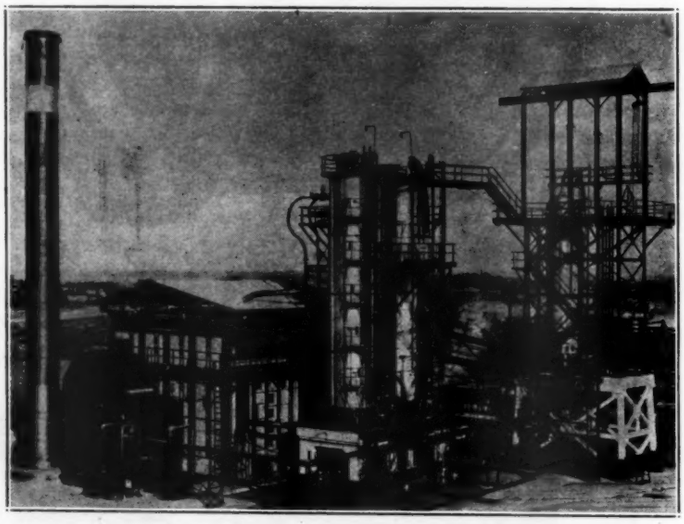
Products From Cracking

The cracked motor fuel produced has a benzol equivalent of 52 per cent when using as the base fuel Mexican straight-run gasoline; however, using Pennsylvania gasoline the benzol equivalent is over 60 per cent.

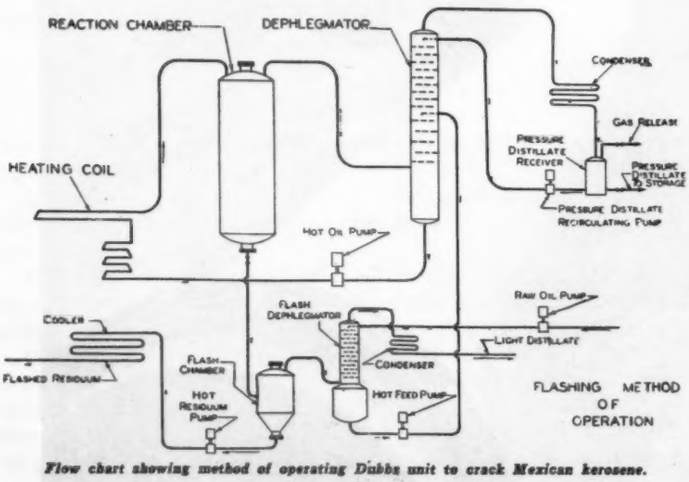
The pressure distillate bottoms makes an excellent furnace, Diesel or tractor fuel, due to its low cold test and fluidity. It is also useful for gas-making purposes or may be cracked into further yields of motor fuel.

The incondensable gas is an excellent fuel, having a B.t.u. content of 1,300 or higher. It may be used as enriching gas for blue gas or producer gas.

The flashed residue has a higher B.t.u. content than the kerosene distillate per barrel of oil, and has good fluidity and cold test. It may be used as refinery fuel or marketed as such.



View of Dubbs unit operating on distillate from Mexican crude.



Flow chart showing method of operating Dubbs unit to crack Mexican kerosene.

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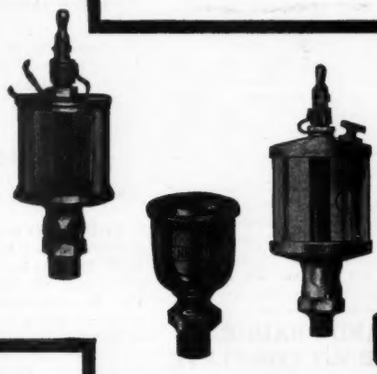

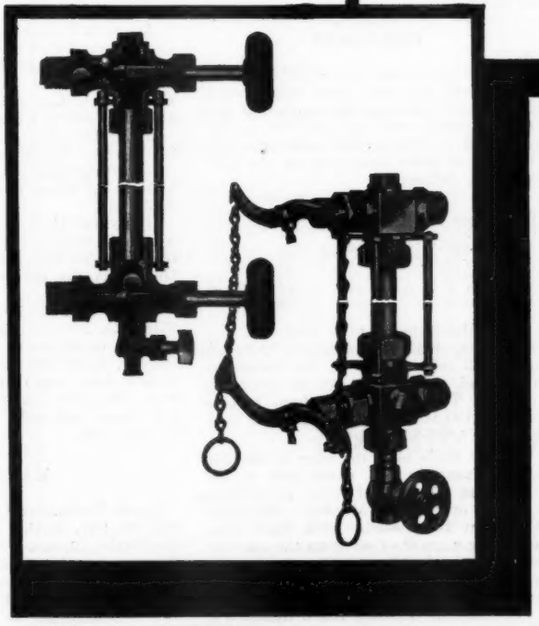

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OIL MEN GATHERING IN CHICAGO FOR INSTITUTE'S ANNUAL MEETING

CHICAGO, Nov. 4.—Chicago is and will be the headquarters of the petroleum industry until next Thursday night. Oil men from every section of the United States are here and almost every incoming train brings additions to the already large number who will attend the eleventh annual convention of the American Petroleum Institute at the Stevens Hotel. While the convention proper does not open officially until next Monday, various committees of the Institute are holding numerous meetings this week as the time allotted for the general convention is entirely too brief in which to hold all the meetings scheduled and cover all the work outlined.

Probably the most comprehensive program ever scheduled for an annual meeting of the institute has been prepared for the sessions here this and next week. Every phase of oil field operations, methods and practices will be covered in many sessions of different committees associated with the Division of Production of the Institute while problems relating to refining and marketing will come up for discussion in meetings of members of the institute interested in those branches of the industry.

Great interest is manifest in the address to be delivered at the general session next Tuesday afternoon by William J. Donovan, former assistant attorney general of the United States who will speak on "The Antitrust Laws." Unit operation is another subject to which different sessions of the convention have been devoted, a special meeting next Wednesday night at which E. B. Reeser, president of the institute, will preside, being scheduled in addition to the general session on the subject that afternoon.

Corrosion of oil field equipment, of pipe lines and refinery machinery; drilling, production and pipe line transportation; refinery engineering; motor fuel; petroleum refining; marketing problems; and the code of marketing practice are other subjects to which special sessions of the convention have been devoted.

The big problem confronting each man attending the convention will be to so arrange his time as to be able to attend those of the sessions in which he is most interested. It will be impossible for him to attend all the meetings as several are scheduled at the same time each morning, afternoon and evening. A glance at the program immediately impresses one with the fact that the convention will be one of work and activity as sessions are scheduled for every morning, afternoon and evening.

OIL MAN'S CALENDAR

NOVEMBER

6-11—Berlin, Germany, International Automobile Show.

10-13—Chicago, eleventh annual meeting, American Petroleum Institute, Stevens Hotel.

12—New York, Oil Trades Association of New York, Roosevelt Hotel.

13-14—Chicago, American Oil Chemist's Society, Congress Hall.

DECEMBER

1-5—Memphis, Tenn., ninth annual Asphalt Paving Conference, the Asphalt Institute and Association of Asphalt Paving Technologists.

2-4—Omaha, Neb., convention, Nebraska Independent Oil Men's Association, Paxton Hotel.

3-4—Indianapolis, Ind., Indiana Petroleum Association, Hotel Severin.

8—New Orleans, La., American Institute of Chemical Engineers.

JANUARY

3-10—New York, National Automobile Show.

10-16—St. Louis, Mo., twenty-eighth annual convention, American Road Builders Association.

19-23—Detroit, Mich., annual meeting, Society of Automotive Engineers, Book-Cadillac Hotel.

24-31—Chicago, National Automobile Show.

FEBRUARY

16-21 — San Francisco, Calif., National Western Metal Congress and Exposition.

MAY

4-9—Charlotte, N. C., Good Roads Convention.

OKLAHOMA NATURAL MAY BUILD TWO NEW LINES

Negotiations are being conducted by the Oklahoma Natural Gas Corp., the Continental Oil Co. and the Big Lake Oil Co. relative to a contract for the natural gas production of the latter two concerns in the Big Lake Field of Reagan County, Texas. Should an agreement be made, it is understood the Oklahoma Natural Gas Corp. will construct a 12-inch welded pipe line from the field to San Angelo, Tex., and also an 8-inch line from the field to the Pecos Valley Power & Light Co.'s power station near Girvin, Tex.

The Continental and Big Lake companies have seven wells in the Big Lake Field with a present potential production of 165,000,000 feet of gas daily. These wells are partially shut in under present proration orders to curtail crude oil production.

The gas corporation already has a pipe line from the Coleman County fields to San Angelo but wells in Coleman County slump off rather rapidly and the proposed new lines would provide more adequate reserves for the service for San Angelo and other towns in that area.

SINCLAIR AND PRAIRIE MERGER ABOUT COMPLETE

Formal announcement is expected to be made late this week or early next week of completion of plans for the merger of the Sinclair Consolidated Oil Corp. and the Prairie Oil & Gas Co. and Prairie Pipe Line Co. Advices from New York, where officials of the companies concerned have been in conference, are to the effect all details relating to the merger have been worked out and that the deal will be consummated within a few days.

Confirmation is lacking at this time of rumors linking other companies with the Sinclair-Prairie merger. The company mentioned most prominently in these rumors is the Tide Water Associated Oil Co.

OKLA. CITY PRORATION ORDER

The Oklahoma Corp. Commission issued new proration orders effective Tuesday, November 4, revising the schedule in the Oklahoma City Field, curtailing the allowable flow of all wells except the underproduced wells. The order modifying the existing statewide proration plan was for the purpose of a further shutdown and will be for an indefinite period. It will permit the underproduced wells in the Oklahoma City Field to get even with the proration schedule and permit the pipe lines in the area to empty the storage in the field.

MAGNETIC STORM

The magnetic storm reported in the October 30 issue of The Oil and Gas Journal as not having ended by 5 p.m., October 28, is reported as ending at 8 a.m. (C.S.T.), on the morning of October 29.

The two telegrams from the United States Coast and Geodetic Survey observatory at Tucson, Ariz., are as follows:

"Storm began twenty-fifth. Fourteen. Moderate."

"Storm ended twenty-ninth. Fourteen."

High Spots in Field News

NORTH TEXAS AND PANHANDLE

Grayson County has its first oil producer. Panhandle operators now curtailing.

CALIFORNIA

New wells in Playa Del Rey Field and several good producers in Long Beach Field.

SOUTHWEST TEXAS

Four new producers at Darst Creek. Maverick County has 15,000,000-foot gas well.

WEST TEXAS

Kerr County wildcat may open large new area. Sulphur water in Andrews County producer.

MISSISSIPPI

More gas wells making 50,000,000 feet of gas in Jackson Field, which now has 24 wells.

GULF COAST

Deep sand well at Refugio was largest on Gulf Coast during week. Deepest test abandoned.

KANSAS

Eastborough Pool extended to north and east. New area opened in McPherson County.

ROCKY MOUNTAIN AREA

Hobbs Pool extended to west. New activity in Eunice area, New Mexico. Revival at Lance Creek.

EAST CENTRAL TEXAS

Joiner discovery reported showing a little salt water but not alarming. Five new tests located. Van Pool may extend south.

OKLAHOMA

Production extended quarter mile northwest at Oklahoma City Field, bringing production closer to business district. Wild well blowing 25,000 bbls. of oil and 55,000,000 feet of gas controlled after three days.

Late Fields

NORTH LOUISIANA-ARKANSAS

SHREVEPORT, La., Nov. 4.—Effective November 1, Lion Oil Refining Co. of El Dorado has bought, for a price not given out, all the properties of the Sun Co. in Smackover, consisting of 420 acres on which it had a daily production of 700 bbls.

OKLAHOMA

The actual production from Oklahoma City Field for the seven days ending November 4, showing the number of barrels produced each day and the number of wells on production and the total number of wells completed in the pool, were as follows:

Date—	Bbls.	Wells prod.	Wells comp.
October 29	102,036	75	632
October 30	97,266	70	636
October 31	102,606	51	636
November 1	76,400	62	637
November 2	52,571	54	637
November 3	52,194	41	637
November 4	90,980	73	641

The Mid-Kansas Oil & Gas Co.'s No. 1 Messer, SW cor., Section 32-14-3w, about 12 miles north of the Oklahoma City Pool, was shut in for an indefinite period. The wildcat has been making around 450 bbls. a day from the Wilcox sand at 6,697-6,772 feet.

A few wells near the edge of the fire danger zone in the north end of the Oklahoma City Field were allowed to resume operations Monday afternoon. Crews at the close-in wells were busy removing a cover of oil from the machinery and the buildings. Companies were picking up the oil from the pits and cellars along the Canadian River.

Continental Oil Co.'s No. 5 Sudik, SW cor. NW NE Section 6-10-2w, Cleveland County, was completed as the most southerly well in the Oklahoma City Field. It flowed 1,230 bbls. in 14 hours from the Wilcox sand at 6,670-94 feet. The gas volume was estimated at 2,500,000 feet a day. It extends production a quarter mile south.

Kedberg Oil Co.'s No. 1 Burrus, NW cor. SW SW Section 2-11-3w, flowed 100 bbls. in a quarter of an hour from sand at 6,193-6,522 feet, and was shut in.

Amerada Petroleum Corp.'s No. 1 Morris, SE cor. SW NW Section 29-9-6, Seminole County, has been completed for 2,115 bbls. in 24 hours on the gas lift from the Wilcox sand at 4,123-53 feet, plugging back to 4,149 feet.

Gypsy Oil Co.'s No. 2 Horn, NW cor. NE Section 23-6-3, in the Wanette Pool, in Pottawatomie County, flowed 4,147 bbls. in 24 hours from a total depth of 3,526 feet.

Gypsy Oil Co.'s No. 1 Tiger, SE cor. SW NW Section 3-8-5, in the north extension to the Carr City Pool, made 4,000 bbls. from the Hunton lime at 3,926-70 feet.

Empire Oil & Refining Co.'s No. 2 Fish (A), SW cor. SE NE Section 19-7-8, south of Wewoka, in eastern Seminole County, made 667 bbls. in eight hours from a total depth of 3,107 feet. No. 2 Fish (B), NW cor. NE SE Section 19-7-8, flowed 260 bbls. from a total depth of 3,111 feet.

KANSAS

Lewis Production Co.'s No. 1 Roberts, NE cor. SW, Section 12-32-4, in the Biddle district northeast of Winfield, Cowley County, was the second well to find production in the Kansas City lime in that district. Oil rose 1,000 feet in the hole in

(Continued on Page 138)

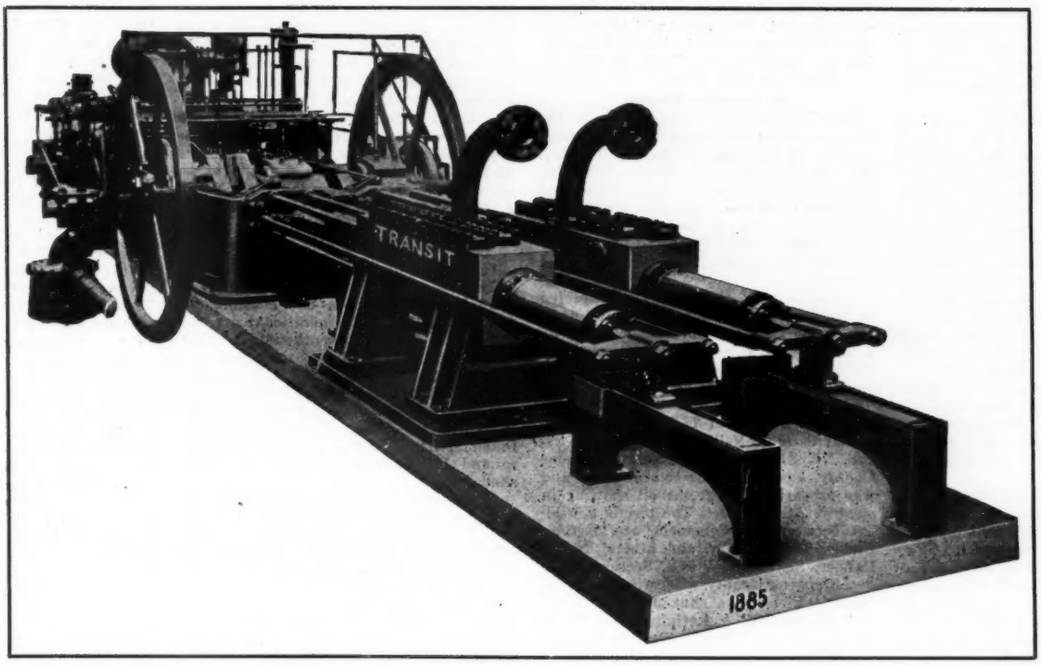
SCORE SHEET ON OIL PRODUCTION

Below is shown allotted average daily production in the United States, April to December, inclusive, suggested by the Committee on Economics of the Federal Oil Conservation Board, and the actual daily average production during the week ending November 1:

	Allotted (bbls.)	Actual (bbls.)	Over (bbls.)	Under (bbls.)
California	610,000	523,985	.....	86,015
Oklahoma	655,000	594,500	.....	60,500
Texas	750,000	786,764	36,764	.....
Other fields	480,000	453,955	.....	26,045
Total	2,495,000	2,359,204	36,764	172,560

Net average daily underproduction, 135,796 bbls.

What doth it profit a refiner if he gain a grist of gas gallonage and yet balance up in the red?



Sales prices are often influenced by the competition—fair or otherwise—until the erstwhile microscopic differential approaches the vanishing point and then reaches across into the red.

Then it is that production costs must be cut or the ad on the refinery gate will be printed in small type, on an official form.

Here is one way out.

Ditch your ordinary, uneconomical hot oil pumping equipment and install a

Transit Flywheel Unit

With its

High steam economy—Steady even discharge saving your connections from all slamming—and perfect alignment at all times.

It means cracking coil pumping trouble tossed into the discard. We welcome an opportunity to demonstrate.

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Frick-Reid Supply Corporation

NEW ORLEANS, LA.
Woodward, Wight & Co.

SALT LAKE CITY, UTAH
F. C. Richmond Machinery Co.

LOS ANGELES
Republic Supply Company of California

BEAUMONT, TEXAS
E. L. Wilson Hardware Company

PHOENIX, ARIZ.
Pratt-Gilbert Co.

ST. LOUIS, MO.
Reeves & Skinner Machinery Co.

Deeper Cut in Oklahoma Production

Output Reduced to an Average of 524,000 Bbls. Oklahoma City Pool Extended. Wild Well Serious Fire Threat to City

By W. A. Spinney
Staff Correspondent, Oklahoma Fields

Production from the State of Oklahoma dropped to an average of approximately 524,000 bbls. daily in the week ending November 1, which is a new low record for the year. The decline was approximately 13,000 bbls. a day from the previous week.

During the week the Oklahoma City Field was in the limelight with another wild gusher, which blew oil and gas into the air at the rate of 25,000 bbls. of oil and 55,000,000 feet of gas daily. The well blew wild for nearly three days before it was brought under control on Sunday, November 2. The area surrounding the well was patroled by firemen and national guardsmen enforcing fire restrictions. Schools near the well were closed when it began blowing wild. It is Morgan Royalty Co.'s No. 1 Stout, NW cor. SE NW, Section 2-11-3w, in the north end of the field and a mile from the business center of the city. Residents were moved out of the fire zone when a grass fire was started, which was soon extinguished.

The Oklahoma Corporation Commission issued permits to open five offsets to relieve the pressure but the Hall & Briscoe's No. 1 Mueller, in Section 2-11-3w, which was opened a few minutes began cutting its connections and was immediately shut in. The other wells were not opened since most of the wells in that part of the field have been damaged by sand cutting during completion.

A new proration order became effective October 29, which extends proration to all flush fields and many of the older producing areas in the State. An account of it appears elsewhere in this edition.

Oklahoma City Extension

Production was extended a quarter of a mile northwest in the Oklahoma City Field, bringing production closer to the business district of the city. Tom Slick Oil Co.'s No. 1 Wespaco, SE cor. SW SE, Section 34-12-3w, flowed 2,436 bbls. in one hour. The well is estimated to be a 75,000-bbl. well from the Wilcox sand at 6,310-6,503 feet. The gas volume was estimated at 55,500,000 feet a day. It was the first well completed in Section 34-12-3w, and indicates production may extend a considerable distance to the northwest.

All drilling tests in the northern part of the Oklahoma City Field for a mile around the Morgan Royalty Co.'s No. 1 Stout, NW cor. SE NW, Section 2-11-3w, the gusher, near the Canadian River that ran wild for 66 hours, were shut down the latter part of last week. All work on producing leases was stopped and companies with leases near the well had crews of men ready in case of fire. Boilers will not be fired up for several days after the well is brought under control as the oil soaked buildings, tanks and rigs in the vicinity and the gas has settled in pockets in the low lands. Derricks were dripping with oil and trees in the neighborhood were drenched from the spray. Plows will be put to work to turn under the oil soaked land and time must be given the sun to dry the drift wood and lumber near the well.

Gas Well Permitted to Flow

Phillips Petroleum Co.'s No. 1 Trader Compress, SW cor., Section 36-12-3w, the most northeasterly producer in the field, was given permission to flow as a gas well under the order issued Friday by the Oklahoma Corporation Commission. The well will be allowed to produce 25 per cent of the open flow of gas with a back pressure held, providing the company has a market for the gas. Any crude oil that is produced with the gas must be reported to the Corporation Commission to be counted as oil production if the classification of the well is ever changed. The order will be effective until a general order is issued determining the classification of all the wells in the Oklahoma City Pool.

In Stephens County

Another producer was added to the area southeast of Comanche, in Stephens County. G. Pace and others' No. 3 Dilley, SE cor. NE NW SW, Section 27-2s-7w, swabbed 75 bbls. in 4½ hours from sand at 1,498-1,506 feet. The new producer is a location south of the same operators' No. 2 Dilley, which is on the pump making 200 bbls. a day, from the same sand horizon.

Other tests in the area were expected to be started by companies owning acreage in the vicinity. Jones and others' No. 1 Toney, SW cor. NW SE, Section 27-2s-7w, was cementing surface pipe at 200 feet, southeast of the new producer. The Texas Company's No. 1 Toney, SE cor. SW NW, Section 27-2s-7w, is a location.

Harris & McNeil's No. 1 Parker, SE cor. NE SE, Section 11-2s-8w, Stephens County, has drilled the cement plugs and was preparing to test the oil showing in sand at 2,049-51 feet. The test is a wildcat between the Comanche and Empire Fields. H. Hanbury and others' No. 1 Palmer, SE cor. NW NE, Section 31-1s-8w, Stephens County wildcat, west of the Empire Field, was shut down at 1,772 feet. Empire Oil & Refining Co.'s No. 2 Miller, SE cor. NE NE, Section 5-2s-8w, an old producer, is drilling deeper at 1,810 feet. G. Pace and others' No. 1 Ing, SW cor. NE, Section 20-1-8w, Stephens County wildcat was abandoned at a total depth of 2,316 feet as a dry hole. W. O. Smythe and others' No. 1 House, SE cor. SW NW, Section 29-2-8w, Stephens County wildcat, was drilling at 2,310 feet. L. Sikes and others' No. 2 W. Blake, NE cor. SW, Section 16-1s-8w, is pumping around 30 bbls. a day from sand at 2,145-57 feet.

Activity in the Tatums Pool in Carter County is slowing down, no new completions being reported during the week. Three operations in the new extension area are shut down with the casing cemented on top of the oil sand, and one new location was announced. M. G. R. Oil Co.'s No. 2 Mitchell, SE cor., Section 24-1s-3w, was drilling out cement plugs at 2,191 feet, with the total depth of 2,375 feet. Magnolia Petroleum Co. has two tests cemented and will probably drill in during the week. No. 4 Pollack, SE cor., Section 14-1s-3w, on the north side of the field, is waiting for cement at 2,133 feet. No. 1 W. H. Hooks, SW cor., Section 13-1s-3w, is also waiting for cement to set at 2,144 feet. Carter Oil Co.'s No. 1 J. Hooks, NW cor. SE NE, Section 24-1s-3w, is a new location.

Greater Seminole Field

In the southern part of Pottawatomie County many express the opinion the Wanette Pool, in 6-3, has considerable future possibilities for additional production to the south and southwest. Another deep test is assured for the area, the Twin State Oil Co.'s No. 1 Gibson, SW cor. NW SE Section 23-6-3, which was drilling in the Simpson sand at 3,980 feet. The top of the Simpson sand was found at 3,965 feet. The test is making around 130 bbls. a day from an upper sand.

Geophysical parties are working in the southern part of Pottawatomie County, and are rechecking the areas in Townships 6-4, 6-5, 7-5 and 8-4. The area has been checked before, but since the southern part of the Wanette Pool is yielding some large wells the present work is being done to establish the possibilities in the adjoining townships. The work in the northern part of Townships 6-4 and 6-5 has been completed and in Township 7-5 is under way.

Amerada Petroleum Corp. and Dixie Oil Co.'s No. 1 Morris, SE cor. SW NW Section 29-9-6, in the new producing area southeast of the Earlsboro Pool, has been making around 400 bbls. a day and some water. The well was plugged back from a total depth of 4,153 feet to 4,149 feet, and shot with 15 quarts and was cleaning out bailing considerable oil. An attempt will be made to plug off the water.

The eight areas in the Greater Seminole district show a total of 18 active operations were under way, as reported for the week ending October 27. Twelve of the tests were in the Carr City area, four in the Earlsboro area, and two in the Little River area. The activity in the Carr City Pool is being curtailed owing to the lack of pipe line connections to wells that are now producing. The tests that are expected to be completed first in the Carr City Pool are the Amerada Petroleum Corp.'s No. 2 Tiger, SW cor. SE NW Section 3-8-5, which was drilling in the Woodford at 3,900 feet, and the Empire Oil & Refining Co.'s No. 4 Brown, SE cor. NE NE Section 3-8-5, which is also drilling in the Woodford shale at 3,910 feet. The Gypsy Oil Co.'s No. 1 Tiger, SE cor. SW NW Section 3-8-5, in the new extension to the Carr City Pool, was flowing at the rate of 1,000 bbls. a day from the Viola lime at a total depth of 4,089 feet, with the tools in the hole.

Northwestern Wildcats

The wildcat test of the Bu-Vi-Bar Petroleum Corp. and others' No. 1 Hurst, C SW, Section 23-25-5w, Grant County, was dry in the Wilcox sand and was drilling deeper at 5,830 feet. The test found the Simpson at 5,787 feet and the Wilcox sand at 5,820 feet. The Viola lime is believed to be missing in the test.

The oil and gas showings in the two Sinclair Oil & Gas Co. wildcat tests in Harper and Woods Counties in the northwestern part of the State are regarded by many as assurance that other wildcat tests may be drilled in these and adjoining counties when the oil industry is in a better condition. The Sinclair Oil & Gas Co.'s No. 1 Howell, C SW SW, Section 14-26-24w, Harper County, is shut down. It is good for 20,000,000 feet of gas and has sprayed approximately 50 bbls. of gasoline a day. The gas was found in sand at 5,350-5,400 feet, and the total depth of test was 8,589 feet, making it the deepest well ever drilled in Oklahoma. The other test was Sinclair Oil & Gas Co.'s No. 1 Stewart, C SW SW, Section 33-27-16w, Woods County, which was drilled to 7,280 feet where water was found in the Wilcox sand. It was plugged back to 6,805-25 feet and shot without results, and was again plugged back to 5,100-5,200 feet where a shot damaged the 9-inch casing, where gas was showing. An attempt is being made to land a steel plug at 4,935 feet, so another shot can be given the test.

Near Older Areas

Other wildcat tests in the older areas in the State were as follows: Champlin Oil & Refining Co.'s No. 1 Bell, SW cor. NW NE, Section 23-10-11, in the southeastern part of Okfuskee County, found a hole full of water in the Wilcox sand and was plugging back to test a sandy lime at 2,835-45 feet which had a showing of oil. The Wilcox sand was found from 3,707-4,032 feet, and the total depth of the test was 4,073 feet.

Carter Oil Co. and others' No. 1 Keyes, SW cor. NE SW, Section 11-11-8, in Okfuskee County near the Seminole County line, had the Mayes lime at 3,800 feet and is shut down waiting for cement to set at a total depth of 3,895 feet.

Mid-Continent Petroleum Corp. and others' No. 1 Jacobs, SE cor. NE NE, Section 21-12-11, Okfuskee County, in the Sunray Pool, was carrying a hole full of water in sand at 2,560-2,705 feet.

The area near the old Tonkawa Field in Kay and Noble Counties is believed to be due for considerable new drilling activity in the near future.

The Garr-Noble Oil Co.'s No. 1 Read, C SE Section 20-24-1w, Noble County, was fishing at 2,181 feet. The test is located a half mile north of production in

(Continued on Page 64)

WILDCAT OPERATIONS IN OKLAHOMA

(Descriptions are East and North unless marked otherwise)

NORTHERN OKLAHOMA

ALFALFA COUNTY

Company, farm and location—	Remarks:
Smith Brothers' No. 1 Forbes, SE cor. NW NW Sec. 12-27-11w	Shut down 1,232 ft.
J. W. Bailey's No. 1 Acre, SW cor. NE Sec. 14-24-11w	Rigging up standard tools 4,660 ft. shut down.

BECKHAM COUNTY

Price-McFann's No. 1 Webster, C SW SW Sec. 34-8-26w	Drlg. 750 ft.
Mid-Continent's No. 1 Schaff, C NE SW Sec. 22-11-22w	Drlg. 430 ft.
Ray Johnson and J. R. Cuniff's No. 1 Brower, C NW Sec. 29-10-22w	Abandoned 3,784 ft.
Producers Exploration Co.'s No. 1 Sidell, SE cor. SW SW Sec. 17-3-22w	Shut down 2,402 ft.
Carson et al's No. 1 Danby, SW cor. SE NE Sec. 20-8-22w	Shut down 1,606 ft.
White et al's No. 1 Green, SW cor. Sec. 24-10-24w	Shut down 1,320 ft.

BLAINE COUNTY

Washoma Oil Co. et al's No. 1 Phillips, C NW SW Sec. 13-19-10w	Drlg. 3,940 ft.

CADDO COUNTY

Abernathy & Brown's No. 2 Houston, Sec. 24-6-11w	Shut down 1,090 ft.
Simms Pet. Co.'s No. 1 Cobsa, SW NW Sec. 24-6-11w	Drlg. 3,165 ft.

CLEVELAND COUNTY

Harris et al's No. 1 Highbee, SE NW Sec. 20-6-1	Shut down 6,518 ft.

COAL COUNTY

Whitney et al's No. 1 Miller, SE NE Sec. 10-2-8	Rig.
Mid Western Oil Co.'s No. 1 Gum Bros., C SW NW Sec. 20-3-10	Rig.
A. M. Van Orden's No. 1 Jamison, SE SW Sec. 31-1-9	Shut down 1,668 ft.
Blackwell O. & G. Co.'s No. 1 L. Jackson, NW cor. Sec. 26-3-9	Drlg. 4,415 ft.
W. E. McGraw's No. 1 King, C SW NE Sec. 11-1-8e	Shut down 3,030 ft.

COMANCHE COUNTY

Croy & Young's No. 1 Cline, NW NE NE Sec. 8-3-10w	Rig.
Shasta Oil Co.'s No. 1 Romwalt, SW NW Sec. 11-2-10w	Abandoned 1,709 ft.
G. W. Stogner's No. 1 Doebel, C SW SW Sec. 3-3-9w	Shut down 1,450 ft.

GARFIELD COUNTY

E. L. Love et al's No. 1 White, SE cor. NW Sec. 9-24-6w	Drlg. 5,750 ft.

(Continued on Page 142)

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Eastborough Pool Extended Two Ways

New Pool in McPherson County. Magnolia Buys Two Vickers Properties. Kansas Production Down to Requirements

By W. A. Spinney
Staff Correspondent, Kansas Fields

Kansas fields were active during the week and new extensions were opened in two of the older producing areas. Production is being held at steady levels, and in the past week averaged aproximately 114,000 bbls.

The largest acreage transaction in the Eastborough Pool, Sedgwick County, probably the largest in the State during the year, was the Vickers Petroleum Co.'s sale of its leases in the SW, Section 17-27-2, and NW, Section 20-27-2, Sedgwick County, to the Magnolia Petroleum Co. for the reported consideration of $250,000. Recent drilling indicates the acreage to be in one of the most productive parts of the pool and it is believed that both the chat and Simpson horizons will produce in this acreage. The largest well in the pool offsets the acreage to the west. The Magnolia Petroleum Co. is expected to start several wells on the property in the near future.

Another producing area was added to McPherson County during the week when the Mid-Kansas Oil & Gas Co.'s No. 1 Garret, SW cor. NE, Section 30-19-1w, started flowing at the rate of 25 bbls. an hour. The new well is estimated to be a 500-bbl. well from Simpson sand at 3,405-10 feet. It is located in the eastern part of the county on the Moundridge high, for which different oil companies have been searching in the past two years, and it is about 2 miles northeast of the Ritz Pool, which is a chat area. The well is about 15 miles northeast of the Voshell Pool, which is a Simpson sand area. The deeper producing horizons have been sought in various locations in the Ritz area, but this is the first producing well from the deep horizon. The well had a 10-bbl. showing in the chat formation at 3,013-19 feet, and it was drilled deeper to explore the lower horizons. It is an offset to W. C. McBride, Inc.'s well which has been making around 150 bbls. a day from chat. Other offsets are owned by the Shell Petroleum Corp. Tankage was being moved in and erected and a production will be made.

Eastborough Extension

Production was extended in the Eastborough Pool during the week by the E. B. Shawver and others' No. 1 fee, SE cor. SW SE, Section 18-27-2, Sedgwick County. Oil was found in chat at 2,959 feet and it was drilled a foot deeper. Drilling operations were suspended to land the 6-inch casing. The oil rose 1,200 feet in the hole in a few hours. The top of the chat was found about 9 feet higher in this well than in the Derby Oil Co.'s No. 3 Eastborough, which is estimated to be a 1,000-bbl. producer.

Other tests nearing the chat formations were Magnolia Petroleum Co.'s No. 2 Wheeler, NE cor., Section 19-27-2, and a location south of the National Refining Co. well, was drilling below 2,820 feet, and is expected to reach the chat in a few days. Another test nearing the chat is the C. L. Work and others' No. 1 Freeman, NE cor. NW, Section 19-27-2, which was drilling near the 2,800-foot level. If commercial production is found in the test it will extend the producing area of the Eastborough Pool almost a half mile to the west.

Many express the belief that production from the chat horizon in the Eastborough Pool, in Sedgwick County, may extend for a considerable distance to the north. This belief was strengthened during the week when production was found east and north. National Refining Co.'s No. 2 Murdock, SE cor. Section 18-27-2, in the Eastborough Pool, was swabbing at the rate of 90 bbls. an hour. The well is estimated to be a 2,600-bbl. producer. The chat was found from 2,938-60 feet. It swabbed 2,210 bbls. in 20 hours and is the largest producer in the pool. It indicated the north end of the pool may be as productive as the south part. It is believed that this well will cause several other tests to be started in the vicinity. Seigel Brothers and others' No. 1 Soukup, in approximately NE cor. SW NE Section 19-27-2, was estimated to be a 1,200-bbl. well. It was swabbing 60 bbls. an hour on the initial production gauge. The chat was found from 2,975-76 feet. The first two hours' gauge was 168 bbls.

Derby Oil Co.'s No. 4 Eastborough, in Section 19-27-2, is now estimated at 1,500 bbls. a day. The chat was found from 2,960-65 feet.

Another test was started 2 miles north and three-quarters of a mile west of production in the Eastborough Pool, the National Refining Co.'s No. 1 Gselle, SE cor. SW SE Section 6-27-2. The well is about three-quarters of a mile southeast of a test drilled about a year ago by Blankinship Petroleum Co., which had a showing of oil and gas.

Several miles south of the Eastborough Pool, Boyle-Grossman, Cameron and others' No. 1 Parks, in Section 13-28-2, Sedgwick County, was shut down at 3,005 feet and it is believed to be within a few feet of the chat formation. Drilling may be resumed during the first part of the week. Some express the opinion the test is running higher than wells in the Robbins Pool to the southwest.

In the Wildcat Areas

Phillips Petroleum Co.'s No. 1 Darr, in Section 29-20-10, Lyon County, was drilling deeper at 2,306 feet, after topping sand at 2,286 feet. The sand had a showing of oil which tested about a half barrel an hour and some water. The oil showing was not considered to be commercial.

Water was found in the Wilcox sand in the Aladdin Petroleum Co.'s No. 1 Donnell, NE cor. SE SW Section 26-29-10, in northern Elk County. The Wilcox sand was found from 2,386-2,411 feet.

As the result of the recent completion of a large gas well in the Barbara gas field, in Barber County, in southern Kansas, new tests are expected to be started in an effort to increase the gas production. The Barbara Oil Co. now has seven completed wells with an estimated open flow of 145,000,000 feet of gas daily.

The Barbara Oil Co. has completed its No. 1 Hamblin, SW cor. NW, Section 24-33-13w, after a three months fishing job. For a time it appeared the hole might be lost, owing to collapsed casing at 1,200 feet from the bottom of the hole. The gas sand was found at 4,487-4,528 feet.

Wildcat Dry Holes

Two dry holes have been completed in the area lately. One was the McPherson Oil & Gas Development Co.'s No. 1 in the C NW, Section 10-33-13w. Only a small showing of gas was found at 4,370 feet, near the top of the Mississippi lime, which is the gas producing horizon of the district. The test was drilled to a total depth of 5,163 feet in the Silicious lime where a hole full of water was found. The Wilcox sand was found at 5,021 feet. The test was plugged back to the sand horizon and a shot failed to make it a gas well, and it was abandoned. The other test was drilled by the Barbara Oil Co. a quarter mile southeast of gas production in the pool. The test was No. 7 Root, C N half SW. Section 24-33-13w, and was drilling at 4,510 feet and will drill to the Wilcox sand. It is located only a quarter section southeast of a 30,000,000 gas well. The same company completed its No. 2 Angell, NW cor., Section 23-33-13w, for 1,500,000 feet of gas from a total depth of 4,456 feet.

The pool is believed to have a huge potential gas production with 15 or 20 proven gas locations. The gas is being sold to one of the new pipe lines for delivery in the northern part of the State and southern Nebraska.

Greenwood and Butler

New producers were added to Greenwood County, T. K. Simmons' No. 5 Harris, SW cor. SE NW, Section 19-22-11, made 75 bbls. from sand at 2,014-48 feet. In the same area Shull Drilling Co.'s No. 1 Johnson, NE cor. SE NW, Section 16-24-12, is a 100-bbl. producer from sand at 1,562-89 feet.

Butler County reports two failures in the deep horizons. Ramsey Petroleum Co.'s No. 1 Ramsey, SW cor. NE, Section 8-24-5, had granite at 3,345-56 feet where it was abandoned. National Refining Co.'s No. 1 Hedderman, SW cor. NE, Section 24-28-5, had water in the Silicious lime at 3,202-10 feet and was abandoned.

Voshell's Outlet Decreased

Skelly Oil Co. served notice on operators that it would discontinue taking oil from leases in the Voshell Pool in McPherson County, November 1. During the month of September the company was running about 2,600 bbls. a day and in October it was handling around 2,100 bbls. a day. The potential production of the Voshell Field according to the state umpire, T. C. Johnson, was 68,000 bbls. on November 1 with a pipe line outlet for 8,500 bbls. a day.

Noble Drilling Co. is attempting to extend production in the Voshell Pool at its location for No. 1 Zerger, NW cor. NE SE, Section 16-21-3w, which is a half mile southeast of production.

The Schurr Pool in Rice County, which is without a pipe line outlet is quiet. Producers & Refiners Corp.'s No. 2 Thompson, in Section 21-20-10w, was the only operation in the pool and it is now temporarily shut down at 2,601 feet. The potential production of the seven completed wells in the area was estimated to be 9,000 bbls. a day.

The Dixie Oil Co. and others' No. 1 McCarty, SW cor. SE, Section 30-25-17w, Edwards County, was drilling deeper at 4,585 feet. The test had a showing of gas at 4,549-50 feet, and another at 4,560-63 feet. A showing of oil estimated at 25 bbls. a day was found from 4,566-68 feet in sandy lime.

Empire Oil & Refining Co. has announced another location for Greenwood County during the week for No. 1 Bradock, SE cor. NW, Section 23-22-12. It is located in the northeastern part of the county and is one of the few remaining spots that has not been tested in the area.

Barber County

McPherson Oil & Gas Development Co.'s No. 1 Rule, C W half, Section 10-33-13w, has been abandoned at 5,163 feet.

Butler County

Hammer & McLean's No. 1 Marshall, SW cor., Section 9-27-6, is dry and abandoned at 3,160 feet.

Cowley County

Martin and others' No. 1 Glacken, C SE SE, Section 23-32-4, is a machine rigging up. Roth & Faurot's No. 2 Brant "A," SE cor. SW NE, Section 12-32-4, has been completed for 1,000,000 feet of gas in sand 722-38 feet. Gralap and others' No. 1 Stevens, SE cor. NE. Section 24-33-5, made 1,200,000 feet of gas from sand 584-604 feet. No. 2 Jarvis, NW cor. SW, Section 19-33-6, has been completed for 780,000 feet of gas in sand 600-16 feet.

Marion County

Magnolia Petroleum Co.'s No. 1 Lehrman, SE cor. NW, Section 18-21-2, is dry and abandoned at 3,443 feet.

McPherson County

Rush, Graham Brothers and Shell Petroleum Corp. moved rig material in for No. 1 Robinson, C SE SW, Section 10-19-2w. United Petroleum Co. and others made location for No. 1 Kaegi, NE cor., Section 20-19-1w. Graham Brothers' No. 1-A Rolander, SE cor. SW SW, Section 30-18-2w, has been completed for 25 bbls. in sand 2,340-95 feet. McPherson Oil & Gas Development Co. and others' No. 1 Fleming, SW cor. NE NW, Section 11-19-2w, made 14,000,000 feet of gas from chat 2,907-23 feet. W. E. McPherson and others' No. 1 Kuns, SE cor. SW, Section 11-20-5w, has been completed for 20,000 feet of gas in sand 1,020-41 feet.

Reno County

Study, Turner and Frost Drilling Co.'s No. 1 Haury, SE cor. NW, Section 1-23-4w, is rigging up.

Rice County

E. H. Langston and others' No. 1 Mowery, C NE, Section 34-19-9w, has been abandoned at 3,336 feet.

Sedgwick County

Shell Petroleum Corp. and others' No. 1 Lygrisse, NE cor. SW, Section 15-26-2, Greenwich Pool, is a cellar. Graham Brothers and Shell Petroleum Corp.'s No. 1 Bogue, SE cor. SW SE SW, Section 15-26-2, is rigging up to deepen from 2,939 feet. Roy Ramsey made location for No. 1 Davies, SW cor., Section 17-27-2,

(Continued on Page 117)

WILDCAT OPERATIONS IN KANSAS

(Descriptions are East unless marked otherwise)

BARTON COUNTY

Company, farm and location— Remarks:
Skelton Oil Co.'s No. 1 Ott, C SE SE Sec. 16-19-14w.....Spudding.
McCool et al's No. 1 Tsern, NW SE NE Sec. 12-20-11w..Shut down 1,600 ft.

BUTLER COUNTY

National Ref. Co.'s No. 1 Settergren, NW cor. Sec. 32-26-4.Wilcox 2,876-98 ft.; water; abnd.
McCulloch and Empire's No. 1 Lilley, SW NW NW Sec. 33-23-5.....Drlg. 1,815 ft.
Farrell et al's No. 1 Sutton, NW cor. Sec. 18-28-7.....Drlg. 1,020 ft.

CLARK COUNTY

Watchorn's No. 2 Morrison, NW NE Sec. 20-32-21w.....Fishing 6,909 ft.

CLAY COUNTY

Crystal Oil et al's No. 1 Tivier, SW cor. Sec. 19-8-2 .....Drlg. 6-in. csg. 2,275 ft.

COFFEY COUNTY

Heyburg's No. 1 Kroft, SE SW SE Sec. 30-22-14.....Drlg. 675 ft.
McGregor's No. 1 Wood, NE NW SW Sec. 20-22-15.....Shut down 650 ft.
Roberts et al's No. 1 Hay, SW SE NW Sec. 32-22-15....Shut down 1,125 ft.

COWLEY COUNTY

Roth & Farout's No. 1 Reedy, SW NW NE Sec. 8-32-8...Fishing 912 ft.
Tom Fine's No. 1 Boyd, NW NE Sec. 32-32-4.....Shut down 2,650 ft.

DICKINSON COUNTY

Severs et al's No. 1 Lavengood, NE SW Sec. 13-13-2.....Drlg. 2,641 ft.

DOUGLAS COUNTY

Steinbuckle's No. 1 Unknown, SW NE NW Sec. 34-14-21.Shut down 1,100 ft.

ELLIS COUNTY

Central Commercial Oil Co.'s No. 1 Helms, SE cor. NE Sec. 2-12-20w.....Fishing 3,916 ft.

(Continued on Page 144)

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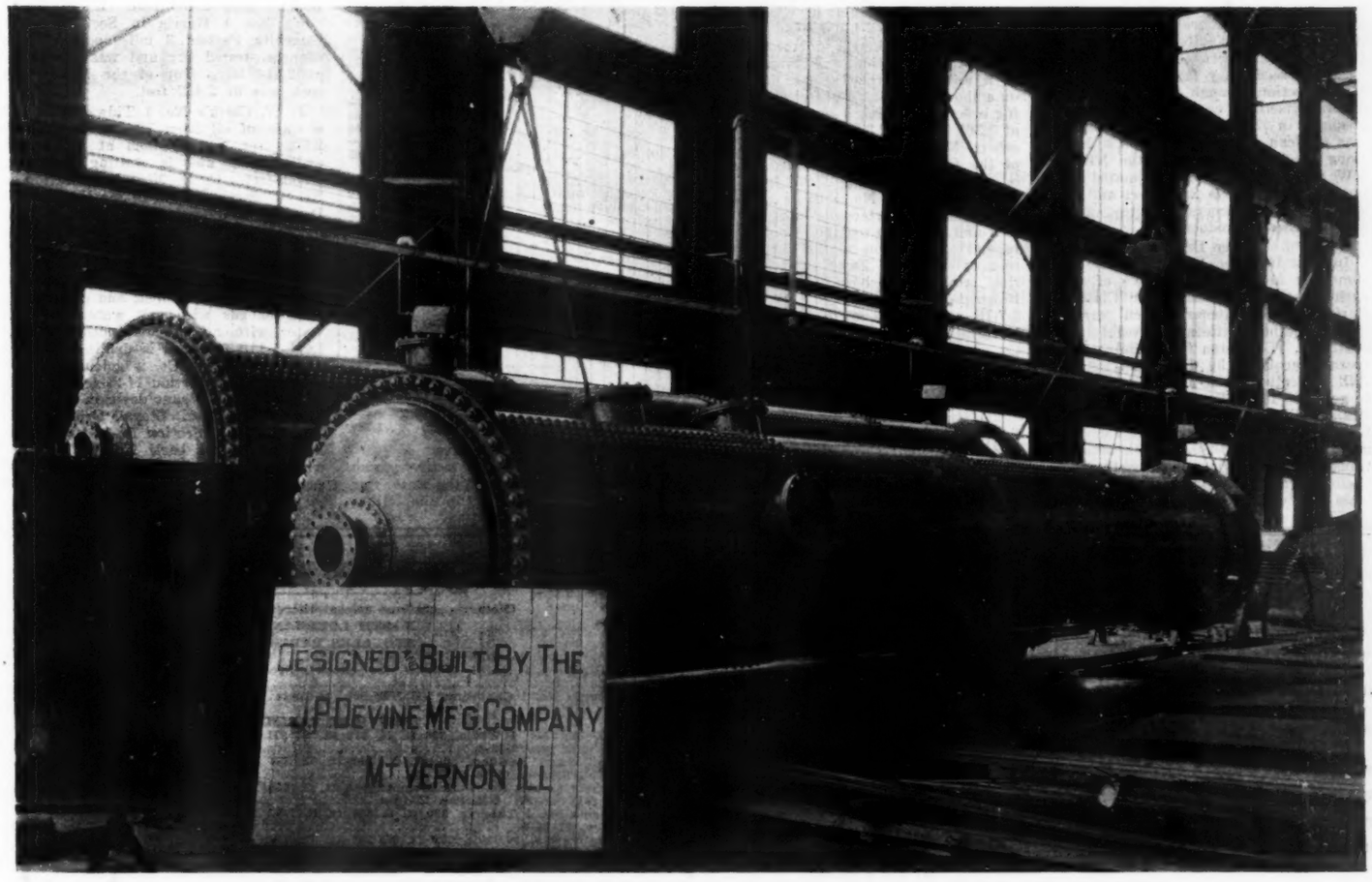

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Two Good Wells From the Zwolle Marl

Deeper Drilling Planned in Claiborne, Homer and Wildcat Areas. Arkansas, East Texas and Mississippi Developments

By D. H. Bancroft
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., Nov. 1.—Two big wells from the Zwolle marl featured activities in this division this week, their location on the north and south edges of proven territory making them more interesting. Proven area in the Zwolle district now measures between 2 and 3 miles north and south and 9 miles east and west, with plenty of vacant territory to be tested for both the shallow and deep pay. The week's two wells are about 4 miles apart in a northwest-southeast line. Dixie Oil Co.'s No. 1 Tatum in the SW NE, Section 23-8-12, making 1,045 bbls. initial through one-eighth inch choke, did not stretch production any but is one of the best wells in the group of good producers that has come to be referred to as the "North Extension." The Texas Company's No. 1 Largent in the SW cor. SW Section 24-8-12, the farthest north test in the district, was a dry hole and has been abandoned. It is a quarter-mile northeast of Arkansas Fuel Oil's Russell well in Section 26-8-12 and between the two of them it would seem they limit production in that direction, though failures and producers offsetting each other have been frequent in Zwolle. The other big well was Pelican Natural Gas Co.'s No. 5 Long Leaf Lumber Co. in the NE cor. NW SW Section 4-7-11, estimated flowing 1,000 bbls., from 2,357 feet and is in a group of producers 4 miles east of original Zwolle production.

Deeper Drilling

Interest in deeper drilling in the division was heightened by news of three such shortly to be started in Claiborne Parish, one in Homer proven territory and the others wildcats several miles northeast. Louisiana Oil Refining Corp. recently acquired by Cities Service, will drill in Section 19-21-7, Homer, planning to go 4,500 feet. Byron Meredith, of the Prairie Oil Co. at Tulsa, has been here for some time in connection with development of the T. B. Slick block of something around 70,000 acres in northeastern Claiborne and northwestern Union Parishes and while locations have not been announced it is reported most of the work preliminary to drilling has been completed and the wells will be in Sections 30-22-4 and 13-22-4, Claiborne Parish. The latter is between two wells drilled to 2,500 and 3,000 feet several years ago. Both will be drilled to 5,000 feet or deeper, it is understood, that having been Slick's intention when he acquired the acreage some time ago. The one in Section 30-22-4 is to be drilled first, it is said.

Beside the two completions several other Zwolle wells were interesting. Lide and others' No. 1 Ponder in Section 15-7-12 is giving signs of being a small producer, bailing dry at 2,412 feet but standing 100 feet in oil from 2,422 feet. It is a quarter-mile northeast of a group of closely bunched wells drilled many years before the discovery of Zwolle which just missed being commercial producers of both oil and gas. Location is about 2 miles southwest of the nearest well in Zwolle and about 3 miles due south of the Zwolle discovery well.

In contrast to Pelican Natural Gas Co.'s No. 5 Louisiana Long Leaf Lumber Co. in Section 4-7-11, Loring Oil Co.'s No. 1 Gardner, in the northeast corner of the same section and three-quarters of a mile from the Pelican, bailed dry on a show of oil at 2,550 feet and is waiting orders, repeating a similar experience at 2,369 feet and 2,381 feet. C. D. Neff and others' No. 1-A Turner, half a mile west of the Loring well, also bailed dry and is waiting orders at 2,595 feet. The Texas Company's No. 1 Stille in Section 33-8-11 is a quarter-mile north of this well and the three together would appear to mark production to the north in the east extension of Zwolle. H. W. Perritt, trustee, has begun drilling No. 1 Bowman-Hicks in the SE SW Section 2-7-12, a half-mile northwest of Pelican Natural Gas Co.'s No. 4 Sabine Lumber Co., a producer. Sabine Syndicate has made location for No. 1 Pearce in the SE NW Section 10-7-11 a mile southeast of production in the East extension.

The same contrasts appearing in Section 4-7-11 appear in Section 26-8-12 where Dixie Oil Co.'s No. 1 Parrott is shut down for orders at 2,650 feet after failing to get anything in either the shallow or deeper pay although there is a shallow producer on either side. Pugh-Hickman Drlg. Co. also appear to have a dry hole in No. 1 Sabine Lumber Co.'s NW NE Section 34-8-12, half a mile north of the discovery well, with a producer between.

Daily Average Runs

Sizeable wells in Champagnolle and Zwolle increasing the daily average runs from those pools are reflected in an increase of 1,340 bbls. in shipments from this division as a whole. Urbana, Sarepta-Carterville and Holly also contributed to the increase. In a total daily average run of 95,955 bbls. North Louisiana pools ran 42,905 bbls., an increase of 1,055 bbls., and Arkansas ran 53,050 bbls., an increase of 285 bbls. Zwolle's increase was 810 bbls., Sarepta-Carterville 105, Holly 125, Champagnolle 130 and Urbana 200. Daily average runs from the several pools were:

North Louisiana	
Caddo, light	8,330
Caddo, heavy	2,760
Homer	3,400
Haynesville	5,130
DeSoto-Red River	2,940
Elm Grove	560
Bellevue	645
Cotton Valley	1,870
Urania	5,440
Pleasant Hill	490
Sarepta-Carterville	2,785
Zwolle	7,550
Holly	995
Total	42,905
Last week	41,850
Increase	1,055
Arkansas	
El Dorado	4,060
Smackover, light	4,940
Smackover, heavy	36,350
Stephens	835
Nevada County	1,020
Lisbon	870
Champagnolle	3,680
Bradley	65
Mount Holly	80
Urbana	1,100
Total	53,050
Last week	52,765
Increase	285
Both states	95,955
Last week	94,615
Increase	1,340

Bossier Most Active

Bossier, the other most active parish in the northwest corner of the state, was almost out of the picture; no completions or particular developments taking place in Carterville, Bellevue having a failure and Sligo one small gasser. The Bellevue well was Autrey Oil Co.'s No. 1 McDade in the NW SE Section 28-19-11, a wildcat drilled for the Trinity production tapped by H. I. Morgan in Section 22-19-11. Louisiana Gas & Fuel Co. completed No. 1 Jeter, Section 24-17-12, making 5,000,000 feet of gas at 2,510 feet.

Two wells in Richland and two in Union contributed 110,298,000 feet of gas to the available supply, Richland as usual contributing the larger share. A wildcat deep test in Ouachita Parish was a failure. Industrial Gas Co.'s No. 5 Grayling, Section 28-21-4 Union, was completed at 2,108 feet, making 9,871,000 feet of gas at 975 pounds, and Interstate Natural Gas Co.'s No. 1 J. M. Edwards, Section 11-21-3, Union, gauged 3,479,000 feet at 1,060 pounds total depth 2,221 feet. United Carbon Co.'s No. 1 Boughton, Section 1-16-6, Richland Parish, made 48,816,000 feet at 930 pounds from 2,445 feet, and No. 1 L. Williams, Section 33-16-6, made 48,132,000 feet at 790 pounds from 2,460 feet. C. W. Frierson's No. 1 Harris in Section 9-17-3, Ouachita Parish, 3 miles southwest of Monroe, tested dry and was abandoned at 2,814 feet. Top of the Monroe gas rock was at 2,462 feet.

J. W. Clark's No. 1 Tidwell that had a show of oil from 12 feet of sand at 2,933 feet, set 6⅝-inch at 2,910 feet, drilled plug and is waiting orders at 2,950 feet. C. D. Neff has location in SE SE Section 18-13-14 for No. 1 H. P. Dowling 3 miles north of Pelham & Bundy's 12-bbl. well on the Rhodes farm in Section 32-13-14. National Drilling Co. ran drill stem test on No. 1 Marsh-McMillan SE NW Section 26-9-6, Catahoula Parish, at 1,040-95 feet, and got a small show of gas with salt water and salt water with no gas on another test at 1,095-1-110 feet and is drilling at 1,611 feet. Gascon Oil Co. is getting deep on No. 1 Morrow, Section 14-2s-4e, Avoyelles Parish, which is shut down in shale and lime at 4,220 feet. Stovall Drilling Co.'s No. 1 Miller, Section 18-10-10, Tensas Parish, plugged back from 1,560 feet, where it bailed dry on a small show of gas, to 692 feet, cemented 6-inch at 700

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LOUISIANA-ARKANSAS PROVEN AREAS

(Rotary operations unless otherwise designated.)

NORTH LOUISIANA

BOSSIER PARISH—BELLEVUE

La. Oil Ref. Corp.'s No. 13-B Bodcaw, 330 ft. S, 400 ft. W, NE cor. SE SW, Sec. 11-19-11.....Whipstocked csg. 1,750 ft; drlg. 1,790 ft.

H. I. Morgan's No. 10-B Kendrick, 1,720 ft. E, 1,120 ft. N, SW cor., Sec. 22-19-11.....Began drlg. Oct. 28.

BOSSIER PARISH—CARTERVILLE

Del.-La. Dev. Co.'s No. 6 Bollinger, 330 ft. S, 220 ft. W, NW cor., Lot 17, in Lot 16, Sec. 31-23-11.....Hole full oil; W.O.S.R; 15 ft. broken sand; T.D. 3,217 ft.

Palmer Corp.'s No. 3 Roberson, 330 ft. N, 330 ft. E, SW cor. NW NE, Sec. 26-23-12.....Derrick.

The Texas Co.'s No. 1 Pine Wood Lbr. Co., 1,650 ft. S, 300 ft. E, NW cor., Sec. 25-23-12.....Fishing D.S; T.D. 3,066 ft.

The Texas Co.'s No. 16 Wilkinson, 330 ft. N, 330 ft. E, SW NE, Sec. 36-23-12.....Cmtd. 6⅝-in. 3,138 ft; drlg. plug.

Tippett Drlg. Co.'s No. 3 Holmes, 330 ft. N, 330 ft. E, SW cor. NE NW, Sec. 34-23-12.....300 ft. oil in hole; waiting on power; T.D. 3,130 ft.

BOSSIER PARISH—ELM GROVE

R. O. Roy's No. 1 Hunter, 660 ft. N, 660 ft. E, SW cor., Sec. 24-16-11.....Drlg. 1,450 ft.

BOSSIER PARISH—SLIGO

Woodley Pet. Co.'s No. 3 Harris, 347 ft. E, 660 ft. N, SW cor. SE NE, Sec. 14-17-12.....Cmtd. 10-in. csg. 128 ft; arranging D.S. test 1,695-1,700 ft.

Woodley Pet. Co.'s No. 4 Harris, 347 ft. E, 440 ft. N, SW cor. SE NE, Sec. 14-17-12.....Location.

CADDO PARISH—GREENWOOD

Calatex O. & G. Co.'s No. 1 Edgar, 1,460 ft. S, 1,900 ft. E, NW cor., Sec. 17-16-16.....Location.

Calatex O. & G. Co.'s No. 1 McAnn-Alfred, 1,810 ft. S, 970 ft. E, NW cor., Sec. 17-16-16.....Location.

CADDO PARISH—HOSSTON

Bayou State Oil Corp.'s No. 4 Barr, 350 ft. W, 595 ft. S, NE cor. SE SW, Sec. 30-22-15.....Cmtd. 6-in. 1,032 ft; W.O.S.R. 1,072 ft.

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WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

(Rotary operations unless otherwise designated.)

NORTH LOUISIANA

AVOYELLES PARISH

Company, farm, location—	Remarks—
Gas-Con Oil Corp.'s No. 1 Morrow (no check), Sec. 14-2s-4e	S.D. sand and shale 4,220 ft.
R. E. Tippett's No. 1 Chateline, NE NE, Sec. 34-1n-3e	Cored S.W. sand 3,140-47 ft; S.D. 3,410 ft.

BIENVILLE PARISH

Carter & Dobbs' No. 1 White, 330 ft. N, 330 ft. W, SE cor. SE SE, Sec. 9-18-6	Drlg. sandy shale 2,112 ft.
Coyle Bros.' No. 1 Lawhon, 300 ft. N, 300 ft. E, SW cor. SE NE, Sec. 15-16-8	Derrick.
W. A. Nichols et al's No. 1 McDermott, 660 ft. S, 660 ft. W, NE cor. NE NE, Sec. 28-18-6	Coring shale 2,964 ft.
S. P. Borden's No. 1 Thomas, 330 ft. S, 330 ft. E, NW cor., Sec. 27-16-9	Reaming to set 7-in; T.D. 4,043 ft.
Olds & Smith's No. 1 Brice, 330 ft. N, 330 ft. E, SW cor. SE SE, Sec. 15-18-6	Coring sandy shale 2,216 ft.

BOSSIER PARISH

Andrews & Davlin's No. 1 Nattin, 100 ft. N, 250 ft. W, C, Sec. 15-22-14	Coring 1,580 ft.
Autrey Oil Co.'s No. 1 Johnson, 1,120 ft. N, 200 ft. E, SW cor. NW, Sec. 34-19-11	S.D. 60 ft.
Rombaugh et al's No. 1 Allison, SW SE, Sec. 10-19-13	Rig up.

CADDO PARISH

Hunter Land & Inv. Co.'s No. 1 fee, Sec. 32-18-14	Began drlg. Oct. 22; drlg. 934 ft.
Tex.-La. Prod. Co.'s No. 1 French, 1,270 ft. N, 675 ft. E, SW cor. NW, Sec. 34-23-16	Drlg. 3,567 ft.
Tex.-La. Prod. Co.'s No. 1 Wall, 2,715 ft. N, 1,980 ft. W, SE cor., Sec. 33-23-16	Drlg. 2,485 ft.

CALDWELL PARISH

Hudson et al's No. 1 Burton, Sec. 35-12-3e	S.D. 2,612 ft.

CATAHOULA PARISH

National Drlg. Co.'s No. 1 Marsh McMillen, 70 ft. N, 100 ft. W, C, Sec. 26-9-6	D.S. test 1,040-95 ft; small S.G. with S.W. 1,095-1,110 ft; S.W; drlg. 1,611 ft.

(Continued on Page 108)

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Four New Producers in Darst Creek

Maverick County Has 15,000,000-Foot Gas Well. Dale Field, Caldwell County, Extended by 40-Bbl. Completion

By B. D. Stevenson
Staff Correspondent Southwest Texas Fields

SAN ANTONIO, Tex., Nov. 3.—Four oil wells completed in the Darst Creek Pool in Guadalupe County last week added 2,600 bbls. flush production to the field, two in Zapata County added 150 bbls. One 15,000,000-foot gas well was completed in Maverick County and W. D. Anderson completed a 40-bbl. well in the Dale area in Caldwell County and extended the boundaries of the field a little to the north. None of the completions was of special interest outside of the additional production they furnish. Sands depths were regular.

Darst Creek Proration

Important developments of the week were the action of the Railroad Commission in cutting the allowable of the Darst Creek Field to 30,000 bbls. The field started out at 10,000 bbls. and increased to 20,000 bbls. by mutual agreement of operators. Then the agreement collapsed and everyone did what was right in his own sight and the field for a time produced around 75,000 bbls. daily. New agreement was reached and the Railroad Commission issued an order cutting it to 42,000 bbls. The last proration gauge under this order would have given the field 59,000 bbls. Application was made to the commission which cut it to 30,000 bbls. According to reports some of the operators in the field will disregard the commission's orders.

At the recent hearings in Austin the commission announced that violators of the orders of the commission would be prosecuted so it looks very much as though Darst Creek will get into the courts. Whether operators will ask for an injunction against the commission or wait for the commission to mandamus them remains to be seen. There are already three injunction suits in the district courts at Austin seeking to restrain the Railroad Commission from enforcing proration and all of them raising the question of its constitutionality. The first hearing on these injunction suits will be on November 10. This will be the first opportunity there has been for testing in the courts of this important proposition.

Southwest Pettus Dry

The southwest corner of the Pettus Townsite in Bee County which last week looked discouraging, this week is definitely dry. Three tests in that part of the townsite pool, Buchanan on Block 8, Houston Oil Co. in the center of Block 21, next east of Block 8, and Humble Oil & Refining Co.'s No. 8 McKinney a south offset to Block 21, were all dry at the regular sand depth around 3,900 feet. At the close of the week the Humble was still drilling and down around 4,250 feet without finding anything. It probably may continue to drill.

Wilson & Hill have abandoned for the time being their locations in the northwest part of the townsite and thus practically no active drilling in the immediate Pettus area is going on now.

J. L. Mauldin is drilling close to the depth where he ought to get production. It offsets the southwest corner of the townsite and since the disappointment in the Buchanan test on Block 8 and the other tests in that part of the townsite it looks a little bad for the Mauldin test but the next few days should tell.

United Gas Co.'s No. 23 Ray, at the northeast corner of the townsite, is in the sand with casing cemented and ready to drill in. It and the Humble test on the south of the townsite and the Mauldin test at the southwest corner are the only active propositions in the whole producing area except the Union Producing Co.'s No. 25 Ray in the Pierce Miller Survey, 2 miles north where the first gas well in a shallower sand at 2,900 feet was brought in and which led to the opening of the Pettus area. No. 25 is below 1,200 feet.

Bee County Wildcats

It is the quietest time the Pettus area has known in months. Wildcats in that part of the country are a little more active. Simms Oil Co. also is starting to develop its pool on the Holzmark land, 10 miles southwest of Pettus. The location for No. 2 was announced along with the announcement that a pipe line is being extended to the well by the United Gas Co. which gives a market outlet for the production.

Cosden's No. 1 Stoltzfus over the week end was getting ready to drill the plugs and test at 4,390 feet. It was reported the week before as being estimated at 10,000,000 feet of gas. It has since set casing and is ready now to drill in. It is about 4 miles south of Pettus.

Several miles north of the Pettus district in southern Karnes County, Fort Bend Oil Co.'s No. 1 Newberry on drill stem test looked like several million feet of gas at least but when casing was set swabbed dry at 2,975 feet but is pulling the liner and about ready to swab again.

Southwest Texas

Daily average production of the pools in the Southwest Texas area for the week ending November 1 follows:

Branyon	23
Bexar	228
Bruner	15,261
Buchanan	130
Chapman	10,545
Dale	339
Duval	250
Darst Creek	58,196
Kingsville	124
Larremore	33
Luling	9,143
Lytton Springs	755
Manford	275
McMullen	15
Medina	22
Mirando	14,622
Normanna	30
Pettus	7,062
Saxet	56
Somerset	1,454
Yoast	300
Total	118,868
Week ending Oct. 25	110,896
Increase	7,972

Live Oak County

There are some things to watch for in the northwest and southeast corners of Live Oak County. In the southeast corner Houston Oil Co.'s No. 22 Boothe, in the middle of the Cartwright gas field where production is found at 2,150 feet, is down 5,424 feet and after fighting heavy gas pressure for a week or more is at last able to set casing. It will probably be another week before the results are known. The company lost one deep hole at more than a mile in depth and a half mile north of production and is now down around 4,000 feet on the replacement well. No. 22 Boothe may be the first real test of the deep possibilities of that district.

In the northwestern part of the county Tul-Tex Oil Co. (Shestnut & Smith) is laying water line and getting ready to start No. 1 Jacob and the Vigil Oil Co. (Sid Keoughan) is around 2,000 feet and drilling. Both are to be deep tests. They are only a few miles apart.

Corpus Christi Area

At the week-end Saxet Oil Co.'s No. 17 Rachel, a deep test in the middle of White Point gas field, cored a sand showing oil at 4,877-92 feet. They were starting Saturday to take another core. The hole is twice as deep as any of the regular producers. It is one of a program of deep tests Saxet is conducting on both sides of Nueces Bay, in White Point Field on the north side and Saxet Field on the south side. No. 2 Donigan on the south side of the bay is a mile deep and drilling.

Balcones Fault Counties

East of San Antonio in the Balcones fault counties, Blount & Mills' No. 1 McMahan, in Caldwell County, at about 1,050 feet, went into a gas pocket that cleaned the hole. It was about the biggest blow-out in that district. Gas is not plentiful in that region though now and then wells have shown considerable gas.

There is some new activity in Gonzales County. A rig is moving in just south of Welder in northern Gonzales. It is a big rig for a deep test. Antibus & Cummings, 4 miles south of Welder, are down 2,385 feet.

New Pools Discovered

The second test drilled in northwestern Duval County by the S. R. C. Oil Co. and Vacuum Oil Co. passed the producing sand depth of the first test at 1,717-24 feet and got nothing. It is now down nearly 2,000 feet. At about 1,400 feet it

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SOUTHWEST TEXAS PROVEN AREAS

DOBROWOLSKI POOL—BEXAR COUNTY

Company, farm and location—	Remarks:
Morgan Bros.' No. 3 Masterson, 300 ft. S of No. 2 Masterson, Miguel Gortaris Sur.	T. D. 550 ft.; set csg
Pen-Tex Oil Co.'s No. 5 Sandemer, 300 ft. S of No. 4 Sandemer	Location.
Pen-Tex Oil Co.'s No. 6 Sandemer, 300 ft. S of No. 5 Bandemer	Location.
W. R. Swearingen's No. 2 Halberdier, 300 ft. SE of No. 1. J. Perege Sur.	T. D. 460 ft.; drlg.
A. J. Swearingen's No. 6 Sandemer, 600 ft. S of No. 1, M. Manchaca Sur.	Location.
A. J. Swearingen's No. 7 Sandemer, 300 ft. S of No. 6, M. Manchaca Sur.	Location.

DARST CREEK FIELD—GUADALUPE COUNTY

Gulf Production Co.'s No. 9 W. R. Posey	T. D. 2,599 ft.; completed 750 bbls.
Humble Oil & Refining Co.'s No. 2-A Dowdy, NE cor. of "A" lease	Location.
Humble Oil & Refining Co.'s No. 9 D. D. Baker, 450 ft. from E line, 150 ft. from N line of lease, Darst Sur.	T. D. 930 ft.; drlg.
Humble Oil & Refining Co.'s No. 7 Wilson, 150 ft. from N and E lines of lease	T. D. 2,595 ft.; drlg.
Humble Oil & Refining Co.'s No. 18-A L. G. Denman	T. D. 2,552 ft.; W.O.C.
Magnolia Petroleum Co.'s No. 3 Klein, 300 ft. SE of No. 2, 450 ft. from SW line of lease	T. D. 2,633 ft.; completed, 400 bbls.
Humble Oil & Refining Co.'s No. 19 A. L. G. Denman, 2,888 ft. from SE cor., 450 ft. from NE line of lease, Emmett Sur.	T. D. 75 ft.; drlg.
Humble Oil & Refining Co.'s No. 20-A Denman, 2,558 ft. from SE cor., 450 ft. from NE line, Denman tract, Emmett Sur.	Rigging up.
Louisiana Oil Refining Co.'s No. 8 Dix, 664 ft. from NE line, 620 ft. from SE line of lease, Robinson Sur.	T. D. 2,420 ft.; drlg.
Louisiana Oil Refining Co.'s No. 9 Dix, 664 ft. from NE line, 1,130 ft. from SE line of lease, Robinson Survey	T. D. 2,365 ft.; drlg.
Magnolia Petroleum Co.'s No. 13 Dix, 300 ft. E of No. 1, 150 ft. from SE line of lease, Robinson Sur.	T. D. 2,275 ft.; drlg.
Magnolia Petroleum Co.'s No. 14 Dix, 150 ft. from SE line, 600 ft. from SW line, Dix lease, Robinson Sur.	T. D. 100 ft.; drlg.
Magnolia Petroleum Co.'s No. 4 Klein, 300 ft. W of No. 1, 150 ft. from NW line of lease, Robinson Sur.	T. D. 1,305 ft.; drlg.

(Continued on Page 112)

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

ATASCOSA COUNTY

Company, farm and location—	Remarks:
Frontier Oil Co.'s No. 2 Boynton, 775 ft. SW of Brown-Fuller gas well	T. D. 2,873 ft.; shut down.

BLANCO COUNTY

Anderson & Manning's No. 1 Speer, 600 ft. to S line, 800 ft. to W line, John W. Speer Sur.	Moving in rig.
Ben H. Ashe Pet. Corp.'s No. 1 Glasscock, moving in to drill on leases out of the Rodson block north of Blanco City	Location.
Hardy-Sitton's No. 1 McMillan	T. D. 570 ft.; shut down.
Liles-Adams et al's No. 1 Stanford, 150 ft. to S line, 1,420 ft. to E line of James Stanford's No. 155	T. D. 660 ft.; drlg.
McCleary et al's No. 1 Schenling, 900 ft. to SE line, 600 ft. to S line of J. A. Rouse No. 118 Sur., 4 miles SW from Blanco City	T. D. 660 ft.; shut down.
J. R. Meek's No. 1 Walker, 360 rds. from W line, 482 rds. from S line of 375-ac. tract in Sur. No. 23	T. D. 900 ft.; standing.
G. Rosenfield's No. 1 Hohenberger, 360 ft. to W line, 1,250 ft. to N line, Sur. No. 94	T. D. 450 ft.; shut down.

BASTROP COUNTY

Pacific Oil & Gas Co.'s No. 1 J. M. Litton, 150 ft. N and W lines of tract	T. D. 658 ft.; drlg.
Majestic Pet. Co.'s No. 1 J. M. Breeding, 160 ft. from N line, 1,020 ft. from W line of 200-ac. tract, 940 varas from W line, 1,225 varas from S line of M. Andrews Sur., 13 miles W from Smithville	T. D. 375 ft.; standing.
Champion et al's No. 1 Smith, 2,541 ft. to NW line, 663 ft. to SW line of tract, T. Standifer Sur.	T. D. 2,262 ft.; drlg.
Texas Pet. Products Co.'s No. 1 Trigg, Stewart Sur.	T. D. 1,670 ft.; coring.
R. S. Bolling's No. 1 McWilliams, 150 ft. from N line, 1,111 ft. from W line of Wm. McWilliams tract, Glasscock Sur.	T. D. 950 ft.; drlg.

BROOKS COUNTY

Southern Crude Oil Purchasing Co.'s No. 1 Holbien-Wormser, 900 ft. from E line, 1,000 ft. from S line of Blk. 39, E. P. de Maguellas Sur.	T. D. 4,160 ft.; reaming.

BEE COUNTY

William F. Morgan and Independent Oil & Gas Co.'s No. 1 Quincy, C Blk. 9 of 11,000-ac. Quincy Subd. of Bee County	T. D. 5,294 ft.; shut down.
O'Neal & Catlett's No. 1 Pat Pugh	Location.
Hurlbut et al's No. 1 Mrs. D. Chestnut	T. D. 3,920 ft.; drlg. lime.
Walter Rawlins' No. 1 P. L. Campbell, C B.&B. Sur.	T. D. 2,280 ft.; drlg.

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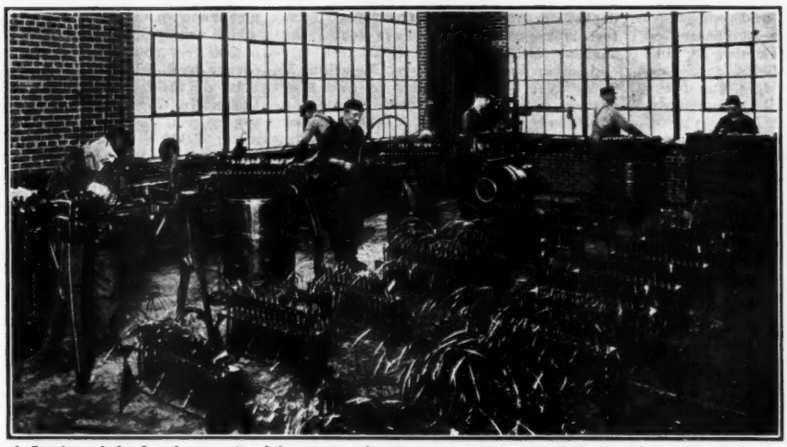
LESCHEN LINES



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Our long experience in the oil fields has permitted us to learn the needs of the industry, and our facilities and research work have enabled us to develop a correct type of Leschen Line for every condition. Some of our specially designed lines are as follows:

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Deep Refugio Well Best on Gulf Coast

Deepest Test Fails to Find Jackson and Is Abandoned. New Dome at Black Bayou Important. Lockport Semiwildcat Interesting

By Neil Williams
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., Nov. 3.—Faced with an extremely unsettled market situation, which became further involved when Gulf Pipe Line Co. on October 30 put into effect new price reductions, which undercut those of other purchasers effective October 28, Gulf Coast fields and operations were due for a drastically enforced curtailment. The new prices of the Gulf Pipe Line Co., undercutting those of other purchasers from 6 to 21 cents, had not been followed by the other buyers up to late Saturday but the tone of Gulf's action was sufficient to intimidate the most optimistic of operators and to indicate what can and will be done to accomplish the desired ends.

When statewide proration was put into effect the Gulf Coast was one of the areas excepted on a 30-day respite conditional on curtailment of operations and production as worked out locally. Since then daily production on the coast has been reduced 20,000 to 30,000 bbls. daily and although there is virtually no free oil available the action of the major purchasers has indicated further curtailment must be made.

In view of possible further reduction in price to follow the new postings of Gulf Pipe Line Co., the consensus of operators late in the week was that immediate steps will be taken individually to close in to the limit all production possible. Present operations are confined to necessary obligations. The cost of production of most operators for some time has been above the market returns and the recent price change is only increasing that margin of loss.

Best Well of Week

Field developments on the Gulf Coast the past week continued quiet. Completions were at low ebb in number and for the most part were routine development offering little prospect for new production. Chief among the late completions at Refugio was Mission Drilling Co.'s No. 1 Ben Shelton which was swabbed in flowing an estimated 1,200 bbls. daily from the deep sand at 6,445-50 feet. In addition to being the best well of the week it is among the best brought in from the 6,400-foot sand at Refugio. The well is on the northeast end of the 6,400-foot development and is a quarter mile from the nearest deep production.

One other well of a series of tests now on this sand was completed, Luling Oil & Gas Co.'s No. 1 West which is flowing 28 bbls. of high gravity oil (gasoline) on a one-eighth-inch choke with 16 feet of screen at 6,461 feet. Pressure of the well is 2,100 pounds. This well, located in Block 81, in the heart of the townlot district at Refugio, blew out late in September and was out of control for 16 hours, producing an estimated 75,000,000 feet of gas daily at that time.

Deepest Test Abandoned

The week was marked by the abandonment of Refugio's deepest test, Mission Drilling Co.'s No. 1 Moss-Heard, which, drilled to a total depth of 8,120 feet, failed to develop production in any of the sands of the Refugio area, although in the midst of the producing field. This test is in Block 111 of the town lots and adjoins to the west Block 110 on which the same company earlier in the year completed a good well in the 6,400-foot horizon. After the well had tested salt water in each of the known sands of the Refugio area, other operators offered financial assistance to the Mission Drilling Co. to take the test down in an effort to find the Jackson, the producing horizon of the Pettus Field, 35 miles northwest, there productive around 3,800-3,900 feet. Although a number of the many deep wells completed at Refugio have been reported as producing from the Jackson, this now is discounted and general opinion is that that formation either is missing at Refugio or at a depth not yet reached. The Moss-Heard test is reported not to have found the Jackson, although quit at 8,120 feet.

Another Refugio deep test, Benedum & Trees' No. 1 Rooke, failed to find production and was abandoned in shale at 6,666 feet. This test is on the extreme southwestern end of the district, and a considerable distance from any other deep tests. Mission Drilling Co.'s No. 1 Joe Shay, Block 6, southern end of the town lot area, also was abandoned. It previously had been completed as a small well in the 5,400-foot horizon and efforts were being made to deepen it to the newer 6,400-foot sand, but after several sidetracking attempts, was quit.

Black Bayou's New Dome

The performance of Shell Petroleum Corp.'s latest two wells at Black Bayou, northwestern Cameron Parish, indicates that a field of importance finally has been opened on this new dome. These two wells, No. 1 State and No. 15 Watkins, the former completed late the previous week and the latter early the past week, have been maintaining steady flows in contrast to other wells there which have dropped off quickly and have gone to water. Both these new wells, reported in The Oil and Gas Journal last week, are on the south side of the dome but from different sands, No. 1 State at 5,175 feet and No. 15 Watkins at 4,402 feet. The former has been flowing upwards of 800 bbls. daily and the latter 1,100 bbls.

Lockport Semiwildcat

Another south Louisiana semiwildcat, completed the previous week, which has been of particular interest, has been Union Sulphur Co.'s No. 2 H. J. Moss in the west extension area of the Lockport Field, Calcasieu Parish. This well, brought in 10 days ago as a gasser spraying a small amount of oil from sand at 5,296-5,307 feet, has been increasing steadily in production until now it is making better than 700 bbls. daily of pipe line oil. This has resulted in that area being looked upon with much more favor than it was at this time last week. The well apparently is producing from a different sand than that in the two other wells there, Union's No. 1 H. J. Moss and Vacuum Oil Co.'s No. 7 Farquahar, which are at 4,800 feet. The No. 2 Moss is 500 feet south of the No. 1, the discovery well, which is flowing around 45 bbls. of fluid, 15 per cent water. Vacuum's No. 7 Farquahar offsets the discovery well to the east. The wells are about 2,000 feet west of the Lockport Field, which Vacuum, jointly with Gulf Refining Co., owns, together with the intervening acreage.

Vinton Field

Development in the north extension of the Vinton Field was rewarded with the completion of another well, Wilson-Broach's No. 3 Wilson, deepened from a shallower sand to the newer deep sand at 3,600 feet. This well with 26 feet of screen set at 3,632 feet came in flowing at the rate of 1,200 bbls., 6 per cent water, daily on a half-inch choke but was pinched down to 500 bbls. This is one of the series of wells being deepened from the 3,400-foot and other shallower sands to the new sand.

Abercrombie & Harrison completed another good well on the south side of the North Dayton Dome in its No. 1 Gulf fee (Hartell), which is flowing 1,150 bbls. of pipe line oil daily on a fifteen-sixteenths-inch choke. The well is flowing under pressure of 290 pounds and gravity of the oil is 41.6°.

Hankamer and Esperson

Two other new fields figured in completions. At Hankamer, Liberty County, Gulf Production Co.'s No. 9 Boyt set two joints of screen at 4,003 feet and is flowing 670 bbls. net oil, 40 per cent water, on a half-inch choke. At Esperson, same county, Cranfill-Reynolds Co.'s No. 6 Davis set 47 feet of screen at 2,335 feet and is flowing 160 bbls. daily on a half-inch choke.

Among other completions were Humble Oil & Refining Co.'s No. 11 Nelson, DeWalt (Sugarland), flowing 700 bbls. with 201 feet of screen at 3,142 feet; Yount Lee Oil Co.'s No. 9 Woodward, southeast side of Barbers Hill, 780 bbls., 30 per cent water, 5,298 feet; The Texas Company's No. 25 House, Humble, pumping 125 bbls., 4,614 feet; Sun Oil Co.'s No. 1 F. C. Marcus, Clay Creek, flowing 360 bbls. on half-inch choke, 1,286 feet; Calcasieu Oil Co.'s No. 21 Watkins, East Hackberry, 150 bbls., 3,924 feet.

The following workovers, or former wells deepened, were reported completed: Yount Lee Oil Co.'s No. 53 McFaddin, Spindletop, 120 bbls., 95 per cent water, 2,839 feet, total depth 5,327 feet; Sun Oil Co.'s No. 24 Mitchell, Liberty, pumping 90 bbls., 980 feet; Empire Gas & Fuel Co.'s No. 33 Barngrover, Hull, 350 bbls. oil, 4,139 feet; Tillery Oil Co.'s No. 2 Tasco, Orange, pumping 20 bbls., 3,304 feet; and Sun Oil Co.'s No. 3 Gunstream, Orange, pumping 60 bbls. net oil, 4,276 feet.

Roanoke Test

Vacuum Oil Co. has started its fifth attempt to prove its geophysical prospect at Roanoke, Jefferson Davis Parish. It has made location for No. 1 Tietje, 450 feet south and 750 feet west of NE cor. SE, Section 14-9s-4w. The prospect is one of the most favorable on the Gulf Coast and several interesting showings have been encountered but so far no commercial production has been developed nor has the dome been proved.

Gulf Coast Production

Daily average production of the pools in the Gulf Coast area for the week ending November 1 follows:

SOUTHEAST TEXAS	
Allen	21
Barber's Hill	20,476
Batson	1,081
Big Creek	3,620
Blue Ridge	1,822
Brenham	140
Boling	946
Clay Creek	2,382
Damon Mound	695
DeWalt	12,341
Fannett	627
Goose Creek	4,527
Hankamer	1,606
High Island	856
Hull	7,604
Humble	16,469
Jasper County	25
Lost Lake	454
Markham	200
Moss Bluff	119
Mykawa	78
Nash	233
North Dayton	1,785
Orange	2,122
Orchard	2,143
Pierce Junction	10,414
Port Neches	1,674
Raccoon Bend	8,411
Refugio	25,025
Esperson (Sheeks)	2,813
Saratoga	1,321
Sour Lake	2,185
South Liberty	3,071
Spindletop	15,341
West Columbia	4,176
Total Southeast Texas	155,883
Total week ending Oct. 25	158,448
Decrease	2,565

SOUTH LOUISIANA	
Anse La Butte	32
Bayou Blue	56
Bayou Bouillon	250
Black Bayou	1,020
Edgerly	490
Jennings	2,057
Hackberry	2,871
Lake Barre	1,705
Lake Pelto	92
Lockport	3,677
Port Barre	2,469
Sorrento	65
Starks	682
Sulphur	3,460
Sweet Lake	1,148
Vinton	5,716
Welsh	121
White Castle	1,078
Total South Louisiana	27,019
Week ending Oct. 25	28,096
Decrease	1,077
Total Gulf Coast	182,902
Week ending Oct. 25	186,544
Decrease	3,642

GULF COAST FIELDS AND WILDCATS

Week Ended November 1

All Rotary

BARBERS HILL—CHAMBERS COUNTY

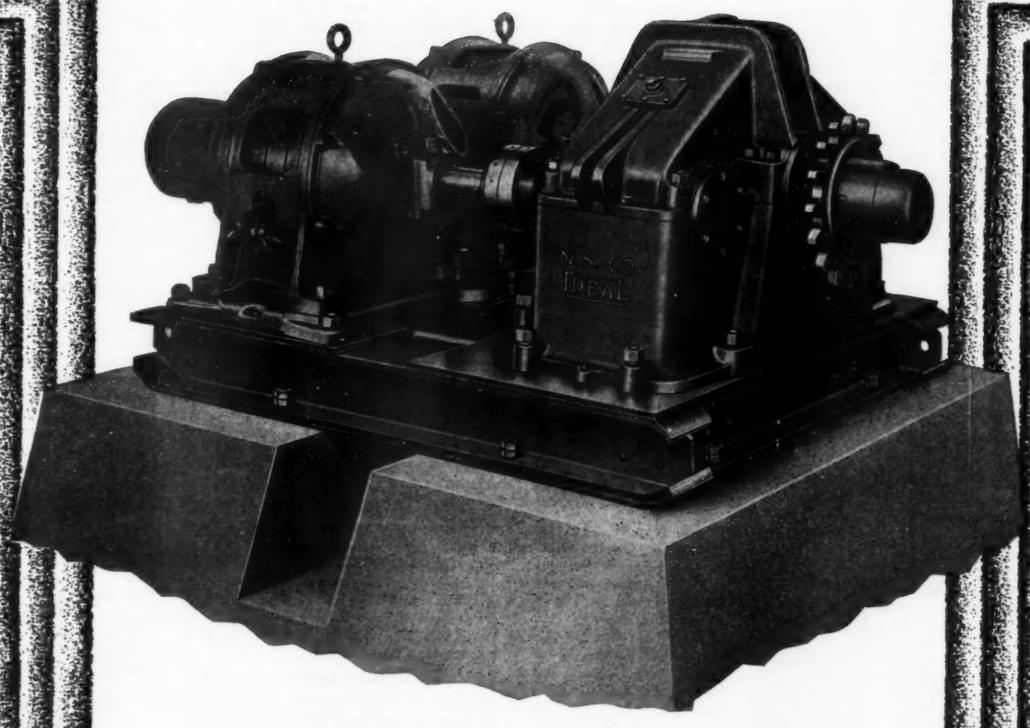
Mills Bennett Prod. Co.'s No. 4 Barber, north	Drlg. sand and boulders 1,018 ft.
Humble Oil & Ref. Co.'s No. 6 fee, west	Cutting stuck liner 6,602 ft.
Humphreys Corp.'s No. 1-B Barber, north	Drlg. shale 6,669 ft.
Humphrey Corp.'s No. 2-B Barber, north	Location.
Humphreys Corp.'s No. 6-A Barber, northwest	Drlg. sandy shale 4,337 ft.
Humphrey Corp's No. 1 Louise Fitzgerald, north	Derrick.
Humphreys Corp.'s No. 1 Morgan (workover)	To sidetrack; total depth 6,404 ft.
Humphreys Corp.'s No. 8-B Kirby, northwest	Drlg. sand 4,182 ft.
Humphreys Corp.'s No. 10-A Kirby (workover)	Drlg. sand and pyrites 2,295 ft.
Humphreys Corp.'s No. 1 Winfree, west	Drlg. hard sand 4,025 ft.
McAlbert Oil Co.'s No. 1-B Higgins, east	Drlg. hard lime 4,398 ft.
Republic Prod. Co.'s No. 3 Kirby (workover)	To reset screen 6,700 ft.
Rio Bravo Oil Co.'s No. 1 Fisher, southwest	Drlg. hard sand and shale 6,630 ft.
Sinclair Oil & Gas Co.'s No. 1 Smith, west	Drlg. sandy shale 5,487 ft.
Sinclair Oil & Gas Co.'s No. 2 Smith, west	Drlg. hard lime 4,871 ft.
Sun Oil Co.'s No. 5 Chambers (workover)	Drlg. shale and lime 4,737 ft.
Sun Oil Co.'s No. 7 Chambers, south	Drlg. rock 2,441 ft.
Sun Oil Co.'s No. 12 Wilburn fee, east	Drlg. hard lime 3,731 ft.
Sun Oil Co.'s No. 13 Wilburn fee, east	Rig.
Sun Oil Co.'s No. 1 Zadie Fisher, southwest	Drlg. shale 5,520 ft.
The Texas Company's No. 1 Williams, southwest	Pulling screen 5,932 ft.
The Texas Company's No. 1 Winfree, west	Drlg. hard sand 4,344 ft.
Yount Lee Oil Co.'s No. 1 Hindman, southwest	Coring sand 5,520 ft.
Yount Lee Oil Co.'s No. 16 Chambers, south	Drlg. shale and lime 4,070 ft.
Yount Lee Oil Co.'s No. 3 Fisher, southeast	Pulled screen 6,628 ft.
Yount Lee Oil Co.'s No. 6 Phillips, east	Rig.
Yount Lee Oil Co.'s No. 9 Woodward, southeast	Comp. flowing 780 bbls. 30% water 5,298 ft.

RACCOON BEND—AUSTIN COUNTY

Humble & Valley's No. 2 Duncan-State	Shale 3,259 ft.; pulled screen.
Humble & Valley's No. 3-B Hardy	Derrick.
Humble & Valley's No. 9 Mueller	Derrick.
Humble & Valley's No. 7 Payne	Derrick.
Humble & Valley's No. 8 Payne	Derrick.
Humble & Valley's No. 1-B Reese	Drlg. shale 3,228 ft.
Humble & Valley's No. 1-B Remmert	Drlg. shale and lime 1,827 ft.
Humble & Valley's No. 6 Saunders	Derrick.
Humble & Valley's No. 3 Sherrod	Derrick.

(Continued on Page 116)

IDEAL
TWIN MOTOR
DRILLING
REDUCTION GEAR



DESCRIPTIVE BULLETIN
No. 80
SENT ON REQUEST

THE
NATIONAL SUPPLY
COMPANIES

Hobbs Pool Is Extended to the West

Seven New Locations and Three Completions. New Activities in Eunice Area. To Resume on Weld County, Colorado, Well. Lance Creek Revival

By Tolbert R. Ingram
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., Nov. 3.—The Humble Oil & Refining Co.'s No. 1-A State, on a line with the producers farthest to the west in the Hobbs Pool, in Lea County, New Mexico, was credited with a potential production of 17,302 bbls. daily and the drilling territory is being extended to the west of this well. Seven new locations were reported the past week and three wells were completed. The Eunice area is showing an increase in drilling activity, two new locations having been made, one by the Continental Oil Co. and the other by the Shell Petroleum Corp. The Continental's No. 1 William Meyers, in the Eunice district, ran into sulphur water and will be plugged back.

Preparations have been completed for the resumption of drilling on the Platte Valley Petroleum Co.'s No. 1 Patterson, in Weld County, Colorado, where a discovery was made on October 10 and most of the major companies are waiting to see what the well will do when drilled into the sand. A show for a small producer is reported in the McGarr Petroleum Co.'s Red Mesa well in La Plata County.

The Ohio Oil Co.'s test to the Sundance sand in the Lance Creek Field in eastern Wyoming flowed 40 bbls. an hour and is estimated at 600 bbls. It opens a new pay which is expected to affect several thousand acres on the structure. The Midwest Refining Co.'s No. 31 Frannie Oil, on the Frannie Dome, is being abandoned after encountering water in the Madison lime.

NEW MEXICO

Hobbs Pool—Lea County

The lull in new operations in the Hobbs Pool in Lea County, New Mexico, which has lasted for several weeks, was broken when seven new locations were reported. All of these, with one exception, are outside wells that will further disclose the productive area of the pool on the western and southwestern sides. The spotting of the new wells followed several completions which showed the edge of the pool had not yet been located in those directions. The Humble Oil & Refining Co.'s No. 3-A State, C NW SE, Section 25-18-37, is digging cellar, and The Texas Company's No. 3-C State, C SW NE, Section 25-18-37, has cellar completed. These two wells, which offset each other, are one-third of a mile west of the nearest producers and the farthest west of any wells drilling in the field. They are 2½ miles due west of the Prairie Oil & Gas Co.'s No. 1 Grimes in the SW cor. NW, Section 28-18-38, the farthest east of the producers in that part of the field. The Sun Oil Co.'s No. 4 McKinley, C SW NE, Section 5-19-38, is a location, and offsets on the east the Midwest Refining Co.'s No. 26 McKinley, C SE NW, Section 5-19-38, which is digging cellar. Other locations include the following: Midwest Refining Co.'s No. 11 State, C NE NW, Section 9-19-38, a mile west of the discovery well in the southeastern part of the field; the same company's No. 11 Thorpe, C NE NW, Section 10-19-38, half a mile to the east of the discovery and due south of the New Hobbs townsite; and Humble Oil & Refining Co.'s No. 11-A Bowers, SW NW NW, Section 29-18-38.

Three Completions

Three completions were reported. The most important was Humble Oil & Refining Co.'s No. 1-A State, NE cor. SE, Section 25-18-37, on the west side of the northwestern part of the field. It was given a potential of 17,302 bbls. of oil in 24 hours and 13,800,000 feet of gas. Total depth is 4,215 feet. The pay was at 4,090-4,215 feet and 3-inch tubing was run to 4,178 feet. It offsets on the south The Texas Company's No. 2-C State, rated at 9,932 bbls. The size of the well not only indicates the possibilities of the territory to the west, but the varying porosity of the sands. The elevation is 3,662 feet and it topped the brown lime at 2,815 feet. The Humble company also completed a large well in No. 10-A Bowers, NE NW SW, Section 29-18-38, rated at 15,098 bbls. of oil and 11,400,000 feet of gas in 24 hours from pay at 3,990-4,220 feet. Tubing is at 4,196 feet.

Midwest Refining Co.'s No. 1 McKinley, NE cor. NW, Section 5-19-38, was completed in the pay at a total depth of 4,190 feet and was given a potential of 9,526 bbls. of oil and 8,511,000 feet of gas. It ran about the same as the Gypsy Oil Co.'s No. 6 Grimes, which it offsets on the south.

Three wells have been drilled to completion and are awaiting proration test. Atlantic Oil Producing Co.'s No. 1 Grimes, SW cor., SE, Section 20-18-38, an outside well in the northern part of the field, topped pay at 4,163 feet and was drilled to 4,242 feet.

The California Co.'s No. 3 State, SE cor., Section 29-18-38, topped pay at 4,008 feet and was drilled to 4,175 feet and 3-inch tubing was run to 4,054 feet. On a company test through the tubing it made 46 bbls. in one hour with gas at the rate of 22,000,000 feet. Through the tubing and casing in one hour it made 67 bbls. of oil and gas at the rate of 43,400,000 feet.

The California Co.'s No. 4 State, SW cor. SE, Section 29-18-38, made 211 bbls. of oil and gas at the rate of 9,900,000 feet in a one-hour test through tubing and casing. The total depth is 4,170 feet and the tubing is at 4,064 feet.

Drilling Operations

Routine operations include the following:

Amerada Petroleum Corp.'s No. 3-B State, SE NW NE, Section 29-18-38, cemented 7-inch in lime at 4,008 feet, and its No. 4-B State, NE cor. NW, Section 29-18-38, is drilling at 3,555 feet in lime and anhydrite and had the first oil at 3,290 feet.

Continental Oil Co.'s No. 1-C State, C NW SE, Section 5-19-38, cemented 16-inch at 180 feet and is building rotary rig, and its No. 4-A State, NE NW SE, Section 29-18-38, is a temporarily abandoned location.

Empire Gas & Fuel Co.'s No. 3 Hardin, SE NE NW, Section 19-18-38, is drilling at 2,703 feet in anhydrite, topped at 1,495 feet, and its No. 3 Fowler, SW cor. NE, Section 31-18-38, is drilling at 2,939 feet in anhydrite. Last named had the first gas at 2,829 feet.

Hobbs High, Inc.'s No. 1 Tatum, NW SW SW, Section 35-18-38, is drilling at 4,245 feet in lime. Salt water rose 3,000 feet in the hole while the well was idle at 4,206 feet and this was bailed down before resuming.

Humble Oil & Refining Co.'s No. 2-A State, SE cor., Section 25-18-37, cemented 9⅝-inch at 2,750 feet. It cut the salt at 1,710-2,505 feet.

Mid-Continent Oil Co.'s No. 1 Fowler, NE NW NW, Section 31-18-38, cemented 9⅝-inch at 2,750 feet. It topped anhydrite at 1,545 feet and salt at 1,670 feet. Bottom of the salt was at 2,620 feet.

Midwest Refining Co.'s No. 26 State, C SE SW, Section 4-19-38, cemented 10¾-inch at 3,265 feet and is rigging up cable tools, and its No. 29 Turner, C SW SW, Section 34-18-38, is drilling at 2,977 feet in anhydrite.

National Securities Oil Co.'s No. 1 Linam, NE SE SW, Section 33-18-37, west of the Hobbs Pool, is digging cellar.

Ohio Oil Co.'s No. 4 State, SW cor., Section 30-18-38, topped anhydrite at 1,540 feet and is drilling at 1,552 feet. Elevation is 3,657 feet.

Prairie Oil & Gas Co. temporarily abandoned its No. 2 Grimes, SW NW NW, Section 28-18-38, for which cellar had been completed.

Shell Petroleum Corp.'s No. 2 Berry, NW cor. SE, Section 31-18-38, cemented 9⅝-inch at 2,800 feet, and its No. 3 McKinley, SE cor., Section 19-18-38, remains a location. Same company's No. 8 McKinley, C N half N half SE, Section 19-18-38, cemented 9⅝-inch at 2,810 feet.

Skelly Oil Co.'s No. 2 Fowler, SE cor. NW, Section 31-18-38, cemented 9⅝-inch at 2,794 feet in anhydrite, topped at 1,530 feet.

Sun Oil Co.'s No. 3 McKinley, NW cor. NE, Section 5-19-38, cemented 7-inch at 3,930 feet and is preparing to drill plug.

Texas Pacific Coal & Oil Co.'s No. 2-G State, NE cor. SE, Section 24-18-37, is bottomed at 4,208 feet and has been side-tracking tubing. It shot the hole at 3,928 feet with five quarts and is drilling by after shot.

Tidal Oil Co.'s No. 4 Grimes, SE cor. NE, Section 29-18-38, is drilling at 2,376 feet in salt. It topped anhydrite at 1,530 feet and salt at 1,710 feet. Same company's No. 2 Hardin, SW SE NE, Section 19-18-38, is drilling at 3,481 feet in anhydrite and lime. It topped lime at 2,845 feet and had first gas at 2,980 feet. Tidal's No. 3 Hardin, SW NW NE, Section 19-18-38, is drilling at 3,570 feet in anhydrite and lime and had first gas at 2,840 feet.

Vacuum Oil Co.'s No. 1 Berry, NE cor. SW, Section 31-18-38, is drilling at 2,735 feet in anhydrite. It topped anhydrite at 1,520 feet and elevation is 3,642 feet.

Eunice Area—Lea County

The Eunice area, which lies 18 miles south and west of the Hobbs Pool, rapidly is becoming the second most active district in Lea County. Two new locations have been made, the latest being Continental Oil Co.'s No. 2 A. E. Meyers, SE cor. NW, Section 17-21-36, an offset on the west to Tidal Oil Co.'s No. 1 Coleman. It is 2,310 feet from the north and west lines. Shell Petroleum Corp.'s No. 1 Coleman, NW cor. SE, Section 17-21-36, an offset to Tidal's well on the south, is building rig. Tidal's well, No. 1 Coleman, SW cor. NE, Section 17-21-36, averaged 970 bbls. daily the past seven days. It was plugged back from 4,147 feet to 3,968 feet several weeks ago and made 1,215 bbls. the first 24 hours after a shot. Ohio Oil Co.'s No. 1 State-McDonald, SW NW SW, Section 15-22-36, 5 miles south and a little east of the wells mentioned, was drilled to 3,904 feet and ran into sulphur water. This well averaged 12 bbls. per hour of fluid, of which 10 per cent was basic sediment and water, at a total depth of 3,900 feet. It also made 25,000,000 feet of gas. It was plugged

(Continued on Page 100)

CENTRAL TURNER VALLEY WELL ESTIMATED AROUND 10,000,000 FEET

By Victor Lauriston
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, Nov. 1.—In the Central Turner Valley area Okalta Oils' No. 2, LSD 8, Section 1-20-3w5, has encountered a good wet gas production about 124 feet in the lime at 4,881 feet depth. The well started with between 8,000,000 and 10,000,000 feet and is deepening in the porous horizon for larger production. It logged closely with Okalta's No. 1 in LSD 1, which got an open flow of 30,000,000 feet, which has since been pinched down by casing trouble, and it looks as though No. 2 may be as good. Okalta's No. 3, LSD 9, had only a small production at 4,550 feet after drilling 407 feet in the lime, and will likely be shot as soon as No. 2 is definitely finished. No. 4, LSD 8, has been standing for some months at 1,657 feet and No. 5, LSD 7, at 1,617 feet. These tests will be resumed later.

In LSD 10, same section, Sioux City Oils' No. 1 is drilling below 6,050 feet on what promises to be a new record deep test for Turner Valley. This test is still 550 feet short of the record established a couple of years ago by British Dominion's No. 1 which drilled decidedly off structure, but the Sioux City well has already established a record for geological depth, being now 1,665 feet below the top of the lime. Some small gas shows have been met at various horizons in the lime, but nothing like large commercial production.

In Section 12-20-3w5, New McDougall-Segur Oil Co.'s No. 4 is on production and reported making around 70 bbls. from the lime

Shareholders of the Richfield company held their annual meeting recently at Calgary, when the following directors were elected: W. S. Henderson, S. G. Carscallen, W. Fay Becker, Robert Wilkinson and J. C. Noell.

Imperial Drilling

Among the Imperial Oil tests in Central Turner Valley, Foothills Oil & Gas Co.'s No. 2, LSD 8, Section 1-20-3w5, is at 4,940 feet and cleaning out after a shot which appears to have developed only a small gas production. Prior to the shot the well was drilled some distance below the former producing level in the lime. Royalite Oil Co.'s No. 20, LSD 7, Section 12-20-3w5, is drilling at 4,933 feet. Royalite's No. 25, N half Section 31-19-2w5, is drilling at 2,897 feet.

Southern Lowery's No. 1, LSD 3, Section 9-19-2w5, encountered a gas flow, estimated 1,000,000 feet, around 4,170 feet depth. The gas caught fire, destroying the derrick, and the crew is now cleaning up. The tools were out of the hole at the time, and the test will be rigged up to resume as soon as possible.

South Turner Valley

In Section 4-19-2w5, South Turner Valley, Miracle Oils' No. 1, LSD 11, which got production in the lime at 5,585 feet, has increased its initial production of 243 bbls. to around 440 bbls. and looks like a good well. For the first week it averaged around 340 bbls. The rotary outfit is being moved to Mercury Oils'

(Continued on Page 99)

SMOOTHING A PATH FOR YOUR TRENCHERS!

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NORTHWEST

New Wells in Playa Del Rey Field

Several Good Producers in Long Beach Field. Production at Kettleman Hills Expected to Be Stable for a Time

By L. P. Stockman
Staff Correspondent, California Fields

LOS ANGELES, Calif., Nov. 1.—The Playa Del Rey Field of Los Angeles Basin yielded its usual weekly quota of new wells during the week and a number of additional completions are expected to be finished within 10 days. The Elmer Oil Co. added a new well to its list, its second in two weeks, by finishing No. 6 Venice flowing 790 bbls. of 22.9 gravity oil from the deep Recreation zone at 6,165 feet, the hole having been finished with a 4¾-inch liner carrying 115 feet of perforated. That many operators in the Playa Del Rey Field deem the upper sand of more importance than the lower zone is evidenced by the fact that most of the completions chalked up for several weeks were finished in the upper horizon. The Conservative Petroleum's No. 1 Jones was a commercial producer upon completion in the upper, or Del Rey zone at 4,534 feet as this new well came in under a natural flow doing 730 bbls. of 22.9 gravity oil.

The Marcel Oil & Gas Corp.'s No. 2 Black was also successfully completed and bottomed at 4,700 feet, was good for 965 bbls. initial. The Rhode Investment Co.'s No. 5 Del Rey was somewhat smaller, although it was commercially productive, being good for 355 bbls. from the upper zone at 4,705 feet, the hole having been finished with an 8⅝-inch liner carrying 995 feet of perforated. The Venice Oil Syndicate's No. 3 Venice was the largest producer finished in the Playa Del Rey Field during the past week, as this new well, bottomed in Schist at 6,089 feet, was good for 1,650 bbls. and 2,900,000 feet of natural gas. This company's No. 4 Venice is being prepared for production and should be tanking oil within a few days.

Grace Bryan Hargraves, daughter of William Jennings Bryan, successfully finished her No. 1 Del Rey a few days ago good for 1,000 bbls. from 6,195 feet. The George F. Getty Oil Co., which has drilled six wells in the Playa Del Rey Field, completed No. 5 Venice this week pumping 432 bbls. of clean 23.6 gravity oil from the upper zone at 4,300 feet, the hole having been finished with a 6⅝-inch liner carrying 750 feet of perforated. Henry Dabney has just completed his No. 1 Robertson, which has just come into production, flowing at the rate of 350 bbls. from 4,536 feet, the hole having been finished with a 6⅝-inch liner carrying 880 feet of perforated. The Deuel Petroleum, with one small well to its credit, completed No. 2 Venice a few days ago pumping 335 bbls. initially from the deep zone at 6,260 feet.

Protest Ordinance

In a communication signed by approximately 100 operators, the California Oil & Gas Association has protested to the Los Angeles City Council against the proposed Playa Del Rey oil field ordinance which is coming up for reconsideration by the city council. The protest says:

"It has come to the attention of the oil operators doing business and paying taxes in the city and county of Los Angeles that your honorable body in order to meet increased expenditures of the police, fire and street departments rendered necessary by drilling operations in the Venice oil field, proposes to levy a permanent license fee of 1 per cent of the gross annual receipts of all operators doing business in the city of Los Angeles. The proposed license fee, if our information be correct, bears no fair relation to the purpose for which it was conceived. It does not take into account the amount of such expenditures or the estimated aggregate amounts of the license fees and it is not confined to the Venice Field and it is a charge which will continue to exist after the troubles complained of have been reduced to a minimum.

"The oil industry as carried on in the city of Los Angeles is one of the principal sources of employment and revenue found in this community. The oil field at Venice alone in the matter of increase in general taxable values and also in the employment of labor and the creation of wealth is of prime importance to the community at large. Each producing well, according to an unofficial but very conservative estimate, will probably be taxed as to the mineral rights on an average value of at least $40,000 and if there be 300 wells in the entire field, the mineral tax alone derived from this source will exceed $525,000 per year. While this will be proportioned to the county and school fund as well as to the general funds of the city, it represents a very large increase in taxable values. Certainly so large an increase in the taxable values of the city produced by this field entitles it to have increased fire, police and street service and the increased tax will far more than compensate the city for its increased expenditures.

"We call the attention of your honorable body to the fact that the supremacy of the business in the great harbor of the city of Los Angeles, as compared with other cities on this coast and in the United States, is due very largely to the vast tonnage, both incoming and outgoing, supplied by the oil industry, and in addition to this the oil operators furnish employment for large numbers of our citizens and use and consume power, light, water and other items furnished by our public utilities and by the city itself, which represent vast volumes of money. It is, therefore, certain in our view that your honorable body will take all steps necessary to protect and foster, rather than to hamper and injure, a business of such great importance to the prosperity of the community. This is especially true in this era of depression and unemployment. May we respectfully ask your honorable body that no hasty action be taken in this matter? The oil industry has always been willing to assume and to pay promptly its civic obligations. Through the California Oil & Gas Association, we now offer to consult and co-operate with your committees and the city attorney in reaching a fair solution of the problem which has brought forth the proposed ordinance."

Long Beach

There were several good wells finished in the Long Beach Field and a check indicates the probable completion of additional wells during the next 15 days. The Dabney-Johnston Oil Corp.'s No. 76 Signal was the largest completion. This new producer tanked 2,540 bbls. of clean 29.1 gravity oil during the initial 24-hour test from 6,249 feet. The Shell's No. 12 was another substantial producer, bottomed at 6,160 feet and finished with an 8⅝-inch liner carrying 1,320 feet of perforated, it was good for 2,045 bbls. of 29.1 gravity oil. The Richfield Oil Co. put two wells on production, one a recompletion. his was No. 2 Haas, which was put on a compressor after being plugged back from 3,907 feet to 3,084 feet, from which depth it was good for 1,220 bbls. of clean 23.6 gravity oil. The company's No. 3 R. C., bottomed at 1,754 feet and finished with a 6⅝-inch liner carrying 790 feet of perforated, was good for 710 bbls. of 25.9 gravity oil on a compressor.

A. N. Macrate successfully recompleted his No. 1 Britisch a few days ago and this well, bottomed at 7,012 feet and finished with a 4¾-inch liner including 460 feet of perforated, was returned to production flowing 1,050 bbls. of 29.1

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Commodity—	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Crude oil	.....	.....	.....	.....	68,690	997,250
Fuel oil	.....	.....	.....	.....	71,950	457,175
Diesel and gas oil	43,290	6,184	140,727	20,104	2,854,370	2,102,799
Gasoline	294,420	42,060	420,403	60,058	16,318,224	16,805,021
Kerosene	.....	.....	.....	.....	.....	49,750
Naphtha distillate	.....	.....	.....	.....	.....	81,750
Coastwise—						
Crude oil	313,601	44,800	366,280	52,326	13,098,614	22,690,603
Fuel oil	423,566	60,509	364,427	52,061	14,772,963	16,030,754
Diesel and gas oil	37,674	5,382	71,341	10,193	1,404,629	1,001,887
Gasoline	205,046	29,292	150,142	21,449	10,390,959	9,149,783
Kerosene	2,180	311	.....	.....	151,436	69,987
Exports—						
Crude oil	173,767	24,824	143,402	20,486	5,702,251	4,851,133
Fuel oil	319,639	45,663	327,782	46,683	14,842,343	15,273,536
Diesel and gas oil	51,222	7,317	228,523	32,646	3,860,666	2,275,455
Gasoline	381,419	54,488	286,362	40,909	13,563,378	9,990,396
Kerosene	.....	.....	51,675	7,382	3,085,709	2,698,903
Lubricants	.....	.....	.....	.....	27,434	.....

TANKER SHIPMENTS FROM SAN FRANCISCO TO ATLANTIC AND GULF COAST PORTS

Diesel and gas oil	.....	.....	.....	.....	279,088	.....
Gasoline	71,914	10,273	.....	.....	1,080,671	1,973,172
Lubricants	3,022	432	.....	.....	27,796	138,705
Coastwise—						
Fuel oil	.....	.....	82,005	11,715	2,746,972	2,689,753
Diesel and gas oil	.....	.....	34,456	4,922	310,222	359,058
Gasoline	30,129	4,304	230,823	32,975	3,662,066	4,180,908
Kerosene	4,614	659	10,843	1,549	194,883	162,085
Exports—						
Crude oil	.....	.....	.....	.....	59,993	121,603
Fuel oil	56,980	8,140	.....	.....	866,296	778,606
Diesel and gas oil	.....	.....	.....	.....	457,589	326,657
Gasoline	.....	.....	90,177	12,882	3,406,476	4,640,352
Kerosene	.....	.....	8,512	1,216	557,170	528,060
Lubricants	.....	.....	.....	.....	33,579	25,713

TWO 50,000,000-FOOT GAS WELLS COMPLETED IN MISSISSIPPI AREA

By Special Correspondent

JACKSON, Miss., Nov. 1.—Completion of two gas wells, formation of five new Mississippi drilling and utility companies and leasing activity northeast of Jackson in Hinds County were developments in the Magnolia State during the week, while in the adjoining State of Alabama a single location remained the scene of inactivity.

Jackson Royalties, Inc.'s No. 1 Pate, NE cor. NE SE, Section 12-5-1e, blew in Thursday making an estimated 50,000,000 feet of natural gas after the bailer had been run 10 times. Chalk was topped at 2,383 feet and was penetrated to a depth of 2,387 feet, returns being lost at that depth.

Cleve Love and others' No. 1 Brown, C NW SE, Section 12-5-1e, blew in Thursday making an estimated 50,000,000 feet of natural gas from a depth of 2,407 feet. Chalk was topped at 2,402 feet.

Both wells are located in the proven Rankin area, neither lending any particular significance to development in the Jackson Field.

Jackson Oil & Gas Co.'s No. 1 Mays, the discovery well in Section 2-5-1e, Hinds County, on the edge of Jackson, is about the most interesting item of the week. Completed in February with an estimated 6,000,000 feet of gas at 820 pounds from 2,568 feet with quite a bit of water, it was plugged back to 2,450 feet, drilled out to 2,466 feet, at which it was 6 feet in the chalk, and blew out with an estimated 35,000,000 feet of gas with no water when it had bailed down only 500 feet.

The franchise to supply gas to Jackson consumers was voted the other day to the Mississippi Power & Light Co., whicn also is after franchises in a number of other towns. This will be the first commercial outlet for the more than 700,000,000 feet of gas (open flow) that has been developed in the Jackson district to date.

The Gulf Refining Co. was preparing to spud in as the week closed on No. 1 McLaurin, 1,410 feet west, 1,230 feet south, NE cor., Section 30-6n-2e, Hinds County.

Love Petroleum Co.'s No. 1 Morton Lumber Co., 1,500 feet east, 1,525 feet north, SW cor., Section 34-6-1e, Hinds County, also spudded in as the week closed.

Across the river from Jackson, in Rankin County, preparations were under way for starting drilling at two new locations. Wallace Oil & Gas Co.'s No. 1 Cobb, Section 12-5n-1e, was rigging up, and Southern Petroleum Co. was running derrick for No. 1 Ivy, Section 12-5-1e, in the same area.

Fred L. Kyle of Shreveport, La., has secured approximately 1,000 acres at lease prices ranging from $70 to $125 per acre northeast of Jackson, between the Louisiana Gas & Fuel Co.'s No. 1 Toole, Section 28-6-1e, northwest of Jackson, and the Pearl River just northeast of Jackson. About one week earlier the Gulf Refining Co. had secured a block of 700 acres in the northeastern area for less than $50 per acre. The lone producing well in the area is the Gulf Refining Co.'s No. 1 Crane-Lawrence, Section 23-6-1e, estimated to be making 10,000,000 feet of gas. Added interest is being manifested in the new well of the Gulf Refining Co. in the same area, the No. 1 McLaurin, Section 30-6n-2e.

Five new companies formed this week include: Bay Springs Petroleum Co., incorporated by M. L. Meredith, Monroe, La., and Frank T. Scott, Jackson; Dixie Petroleum Co., incorporated by K. D. Wells, Jesse F. Jones and Alex Fitzhugh,

(Continued on Page 117)

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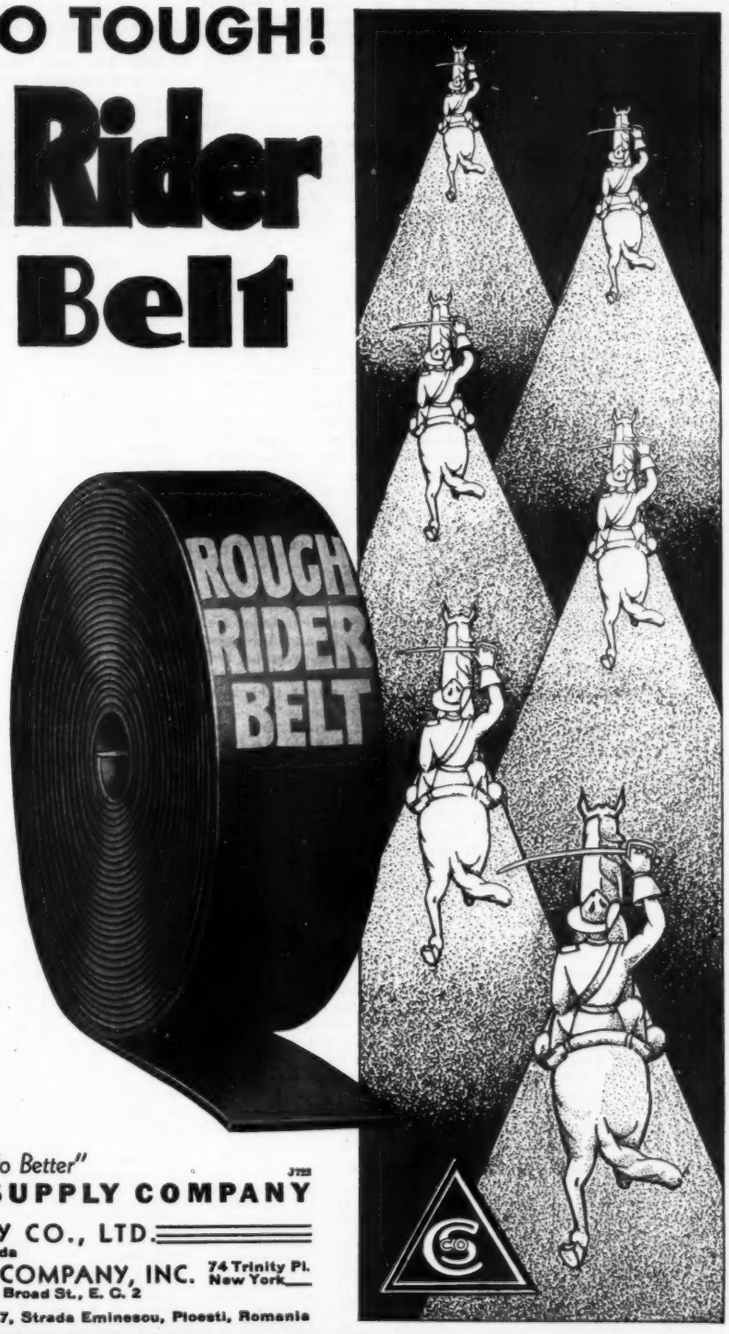

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gravity oil. In the Los Cerritos section the Jameco, Inc., successfully completed No. 7 Signal after redrilling and deepening it to 5,299 feet. This well is flowing 500 bbls. but the output has not yet cleaned up and may require some corrective work. E. E. Combs' No. 15 Long Beach, bottomed at 7,519 feet and finished with a 4¾-inch liner including 1,090 feet of perforated, was brought in under a natural flow doing 300 bbls. The Zenith Oil Co. added a new well to its list of producers by finishing No. 3 Signal flowing 484 bbls. of clean 29.1 gravity oil from 7,638 feet, having been completed with a 4¾-inch liner carrying 255 feet of perforated. The Two & One Oil Co. finished its first successful completion in the Long Beach Field when No. 1 Signal was brought in flowing through open hole at the rate of 875 bbls. from 7,526 feet.

Elwood

The Bankline Oil Co. successfully finished its No. 7 on tideland permit No. 89 in the Elwood Field of Santa Barbara County early in the week and this new well, bottomed at 3,435 feet and finished with a 6⅝-inch liner carrying 285 feet of perforated, was good for 3,500 bbls. of exceptionally clean 38.1 gravity oil. The next well scheduled for completion in the Elwood Field is the Elwood Exploration Co.'s No. 5 on State permit No. 90, although No. 8 on the same property and No. 7 Doty of the Barnsdall and Rio Grande may also be completed about the same time. There were no completions listed in the Ventura Avenue Field but a check indicates several potential producers should be tanking oil shortly. General Petroleum's No. 1 More in the Goleta area of Santa Barbara County was given a flow test early in the week and established a potential of 11,500,000 feet of dry natural gas.

Midway-Sunset

The California Western Oil Co. finished No. 6 Havenstrite in the Maricopa flats section of the Midway-Sunset Field which, put on the beam at 4,015 feet, was good for 210 bbls. of 18.4 gravity oil on the pump. In the older section of the Midway-Sunset Field the Union Oil Co. has concluded drilling operations on No. 1 Editor at 1,485 feet and this well, finished with a 6⅝-inch liner carrying 175 feet of perforated, looks good for 300 bbls. on the beam. In the Round Mountain Field of Kern County, the Honolulu Consolidated Oil Co. successfully completed No. 3-A Matthews in Section 20-28-29, and this new well is pumping 776 bbls. of clean 17.4 gravity oil from 2,180 feet. The Shell also completed a new well in this field, No. 9 Freeman in the same section, but it had not yet cleaned up at a late hour to such an extent that an accurate gauge was available.

It will probably be several weeks before another well is completed in the Kettleman Hills Field of Kings County and in the meantime field produciton is expected to remain relatively stable. The Superior Oil Co. placed its new natural gasoline plant in operation this week and No. 1 Huffman, flowing 80,000,000 feet of natural gas, is furnishing sufficient gas for normal operations. The Standard Oil Co. has completed tentative plans for the construction of a steel loading pier to supplement its submarine pipe line which is the western terminal of the company's pipe lines in Kettleman Hills. This new pier, which will be approximately 2,500 feet in length, will enable tankers to dock alongside of the pier and thus facilitate loading. At present tankers lifting oil out of Estero Bay are made fast by being anchored to several buoys during loading operations which are accomplished by means of a flexible hose at the seaward end of the submarine line. The Associated Oil Co. has just completed plans for the laying of a new 8-inch oil line from the Ventura Avenue Field to the city of Ventura and thence to an anchorage in the harbor approximately 2,500 feet out from shore. Officials of the Associated have requested a 50-year franchise from the city of Ventura for two new pipe lines, one of which will be a 10-inch line and the other an 8-inch line. Construction work on the Associated's new line will probably be started shortly after December 1 when the Ventura city council will vote on the requested franchise.

Inglewood

The Standard Oil Co. completed No. 64 on Los Angeles Investment lease No. 1 in the Inglewood Field and this new well, which was put on a pumping test some 10 days ago, has subsequently cleaned up to such an extent that it is at present pumping 520 bbls. of clean 19.3 gravity oil per day from 2,645 feet. In the Huntington Beach Field the Rich-Field Oil Co. completed No. 3 Dieder Golay and this well is pumping 80 bbls. from 3,570 feet. George F. Getty Oil Co. has resumed drilling operations on No. 48 Springs at 8,150 feet and this well will be carried down as a deep conclusive test to remove any doubt as to the potentiality of the formation underlying the present productive zone. Two wells were given production tests in the Potrero Field of Los Angeles Basin and, while both are showing water cuts in excess of pipe line specifications, they will probably be allowed to remain on production and the water bled off. These two wells were Pentz and Farmer's No. 1 Potrero and the Taylor Oil Co.'s No. 8 Rawco. The former was good for 365 bbls. from 6,223 feet, while the latter is making 350 bbls. of fluid from 5,623 feet.

HEAVY FLOW OF GAS IN DEEP TEST -- IN MONROE SAND, MUSKEGON FIELD

By Paul A. Elliott

MUSKEGON, Mich., Nov. 3.—A shower of salt water was hurled more than 20 feet over the top of the derrick by a heavy flow of natural gas struck in the first deep test in the proved Muskegon Field. The well made two short flows above the walking beam and then cleaned itself of a column of salt water fully 2,000 feet deep indicating a pressure of about 1,000 pounds to the square inch and a probable open flow of several million feet of gas.

Gas was struck at about 2,265 feet before drillers realized they were getting into the Monroe formation. They continued drilling for several feet to about 2,270 feet, present total depth, before the gas began to throw the water out of the hole. It flowed three times, the last time over the crown block.

It was decided to case the well and cement the casing at about 2,250 feet. It will take several days to let the cement set so it will be impossible to determine the actual production of the well until next week.

Four rigs already have been ordered moved here from Manistee and Mount Pleasant indicating the immediate interest that has been aroused in the field by the new pay.

Operators had hoped to get gas in large commercial quantities in the Ni-

(Continued on Page 100)

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, well, location—	S-T-R	Depth	Status
Union, No. 1 Orchard Dale, Los Angeles Co.	10- 3-11	5,560	sd. sh. drilling
Olympic Realty Corp., No. 1 Venice, Los Angeles Co.	14- 2-15	3,694	br. sh. drilling
Dwyer & Becker, No. 1 Compton, Los Angeles Co.	17- 3-13	4,520	cleaning out
Francis, Don, No. 1 Compton, Los Angeles Co.	8- 3-13	572	suspended
Central Oil Co., No. 1 Compton, Los Angeles Co.	28- 3-13	5,094	suspended
Combs, E., No. 1 Compton, Los Angeles Co.	16- 3-13	692	cleaning out
Cal. Ventura Oil Co., No. 1 Manhattan, Los Angeles Co.	30- 3-14	6,525	suspended
Cal. Ventura Oil Co., No. 1 Hermosa, Los Angeles Co.	31- 3-14	3,396	cleaning out
Cal. Ventura Oil Co., No. 2 Hermosa, Los Angeles Co.	31- 3-14	2,580	sd. sh. drilling
McMahon & McDonald, No. 1 Watts, Los Angeles Co.	12- 3-14	4,665	suspended
McKeon Drlg. Co., No. 1 Watts, Los Angeles Co.	1- 3-14	300	suspended
Rio Grande Oil Co., No. 1 Watson, Los Angeles Co.	17- 4-13	6,295	suspended
Tenacity Oil Co., No. 1 Dominguez, Los Angeles Co.	11- 4-13	5,580	suspended
Shell, No. 1 Van Nuys, Los Angeles Co.	19- 2-15	5,575	hd. sd. drilling
Rio Hondo Pet., No. 1 Puente, Los Angeles Co.	14- 2-10	3,726	cleaning out
Rucker & Smith, No. 2 Puente, Los Angeles Co.	27- 2-10	rig	rigging up
Bardeen Pet., No. 3 Puente, Los Angeles Co.	2- 2-10	mtl.	building rig
Bidart Oil Co., No. 1 Puente, Los Angeles Co.	15- 2-10	2,895	cleaning out
Keck & Hall, No. 1 Puente, Los Angeles Co.	32- 2- 8	1,120	gas—shut in
Marcel Pet. Co., No. 1 Puente, Los Angeles Co.	31- 2- 8	3,094	br. sh. drilling
Cudahy Oil Co., No. 1 Bell, Los Angeles Co.	30- 2-13	rig	portable equip.
Celito Oil Co., No. 1 Monterey Park, Los Angeles Co.	25- 1-12	5,278	suspended
Los Gatos Oil Co., No. 1 El Monte, Los Angeles Co.	16- 1-11	2,190	sd. sh. drilling
Olympic Corp., No. 1 Calabasas, Los Angeles Co.	18- 1-17	5,695	fishing
Union, No. 1 Coyote Sansinena, Los Angeles Co.	30- 2-10	5,190	br. sh. drilling
Western Gulf, No. 1 Brea Canyon, Los Angeles Co.	28- 2- 9	6,840	abandoning
Lamona Oil Co., No. 1 Pomona, Los Angeles Co.	34- 1- 9	968	hd. sd. drilling
Graham & Loftus, No. 1 Coyote, Orange Co.	18- 3- 9	6,733	testing
Ness Pet., No. 1 Newport, Orange Co.	21- 6-10	4,910	suspended
Hall, H. L., No. 1 Newport, Orange Co.	20- 6-10	790	suspended
Standard, No. 1 Newport, Orange Co.	26- 6-10	2,590	hd. sd. drilling
Fidelity Pet. Co., No. 1-A Murrietta, Riverside Co.	23- 7- 3	1,010	suspended
Hemet Pet. Co., No. 1 Ward, Riverside Co.	9- 5- 1	3,560	suspended
Imperial Valley Oil Co., No. 1 Brawley, Imperial Co.	36-11-10	3,240	suspended
McGregor Synd., No. 1 Del Mar, San Diego Co.	17-14- 3	1,265	suspended
Borderland Oil Co., No. 1 Encinitas, San Diego Co.	13-13- 4	2,519	suspended
Borderland Oil Co., No. 1 Point Loma, San Diego Co.	30-16- 3	4,164	gr. sd. drilling
Carr, O. K., No. 1 Capistrano, San Diego Co.	13- 8- 8	4,680	hd. sd. drilling
Grey, H. H., No. 1 Redlands, San Bernardino Co.	25- 1- 2	2,392	hd. sd. drilling
Girard & Grimes, No. 1 Corona, San Bernardino Co.	8- 2- 8	1,549	suspended
Western Gulf, No. 1 Santa Ana, Orange Co.	12- 3- 8	612	sd. drilling

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Company, well, location—	S-T-R	Depth	Status
Standard, No. 1 Point Conception, Santa Barbara Co.	X- 5-24	6,500	hd. sd. drilling
Prairie Oil Co., No. 1 Lompoc, Santa Barbara Co.	15- 7-35	5,625	suspended
Fields Gas Co., No. 1 Santa Maria, Santa Barbara Co.	8- 9-33	5,590	suspended
Western Gulf, No. 1 Santa Maria, Santa Barbara Co.	5- 9-33	4,206	sd. sh. drilling
Barnsdall, No. 1 Gato Ridge, Santa Barbara Co.	9- 8-32	5,212	sd. sh. drilling
Midwest Oil Co., No. 1 Los Alamos, Santa Barbara Co.	2- 7-33	1,415	cemented
General Pet., No. 1 Goleta, Santa Barbara Co.	21- 4-28	4,533	gas—shut in
General Pet., No. 2 Goleta, Santa Barbara Co.	21- 4-28	4,350	gas—shut in
General Pet., No. 3 Goleta, Santa Barbara Co.	21- 4-29	2,461	cleaning out
General Pet., No. 134 Goleta, Santa Barbara Co.	21- 4-28	1,485	suspended
General Pet., No. 136 Goleta, Santa Barbara Co.	21- 4-28	1,016	suspended
General Pet., No. 137 Goleta, Santa Barbara Co.	21- 4-28	1,026	suspended
General Pet., No. 138 Goleta, Santa Barbara Co.	21- 4-28	4,931	suspended
General Pet., No. 139 Goleta, Santa Barbara Co.	21- 4-28	1,035	suspended
General Pet., No. 143 Goleta, Santa Barbara Co.	21- 4-28	1,040	suspended
Boles Oil Co., No. 140 Goleta, Santa Barbara Co.	22- 4-28	1,040	suspended
U. S. Pet., No. 141 Goleta, Santa Barbara Co.	20- 4-28	1,035	suspended
U. S. Pet., No. 142 Goleta, Santa Barbara Co.	20- 4-28	1,032	suspended
U. S. Pet., No. 143 Goleta, Santa Barbara Co.	20- 4-28	1,019	suspended
El Camino, No. 149 Goleta Tideland, Santa Barbara Co.	22- 4-28	1,035	suspended
Bolsa Chica, No. 191 Goleta, Santa Barbara Co.	24- 4-29	3,100	sd. sh. drilling
Caldwell Brown, No. 159 Goleta, Santa Barbara Co.	24- 4-29	1,040	suspended
Cochran, J. H., No. 1 Naples, Santa Barbara Co.	7- 4-29	4,070	suspended
Johnson, George, No. 1 Goleta, Santa Barbara Co.	X- 4-28	3,970	cleaning out
Wildcat Oil Co., No. 1 Santa Maria, Santa Barbara Co.	20-10-35	5,500	suspended
Pacific Western, No. 1 Gibraltar, Santa Barbara Co.	14- 5-27	2,345	suspended
Prairie Oil & Gas Co., No. 1 Ventura, Ventura Co.	30- 3-22	7,518	cemented
Rio Grande, No. 1 Lankershim, Ventura Co.	13- 4-19	1,820	fishing
Associated, No. 1 Rincon Creek, Ventura Co.	19- 4-24	2,080	suspended
Pure Oil Co., No. 1 S. P. Canyon, Ventura Co.	15- 4-21	2,360	cleaning out
California Republic, No. 1 Sespe, Ventura Co.	23- 4-21	rig	suspended
Superior Oil Co., No. 1 Sespe, Ventura Co.	14- 4-21	2,188	sd. sh. drilling
Lockwood Valley Oil Co., Well No. 1, Ventura Co.	32- 8-21	210	suspended
Nordon Oil Co., No. 1-A Buttonwillow, Kern Co.	7-29-24	5,065	redrilling
Superior Oil Co., No. 1 Buttonwillow, Kern Co.	32-29-25	....	location
Federal Drlg. Co., No. 1 Buena Vista, Kern Co.	20-31-24	1,840	sd. sh. drilling
General Pet., No. 1 Beiridge, Kern Co.	30-28-21	2,460	sd. sh. drilling
The Texas Company, No. 1 Beiridge, Kern Co.	22-27-20	rig	rigging up
Richfield, No. 1 Beiridge, Kern Co.	20-27-20	5,278	sd. sh. drilling
Standard, No. 1 Beiridge, Kern Co.	31-27-20	mtl.	building rig
Ohio Oil Co., No. 1 Beiridge, Kern Co.	36-27-20	mtl.	building rig
Union, No. 1 Beiridge, Kern Co.	27-28-20	....	location
Rio Grande, No. 1 Beiridge, Kern Co.	18-28-22	3,680	suspended
Reward Oil Co., No. 1 Beiridge, Kern Co.	34-27-20	mtl.	building rig
Shell, No. 3 Beiridge, Kern Co.	24-28-20	940	core hole
Wallace, K. C., No. 1 Beiridge, Kern Co.	32-29-21	3,810	repair rig
Rio Cal Pet., No. 1 Shale, Kern Co.	2-27-18	2,270	br. sh. drilling
Shell, No. 1 Weed Patch, Kern Co.	29-30-29	5,860	sd. sh. drilling
Shell, No. 2 Weed Patch, Kern Co.	29-30-29	480	sd. drilling
Mohawk Oil Co., No. 1 Weed Patch, Kern Co.	32-30-29	rig	rigging up
Pet. Sec., No. 1 Edison, Kern Co.	14-29-29	3,580	redrilling
Symark Oil Co., No. 1 Edison, Kern Co.	24-29-29	2,130	suspended
Sayre, F. M., No. 1 Edison, Kern Co.	5-30-29	4,220	suspended
Standard, No. 1 Devils Den, Kern Co.	14-25-18	1,050	sd. sh. drilling
Shell, No. 1 Semitropic, Kern Co.	17-27-23	7,190	hd. sd. drilling
Moran & DeCamp, No. 1 Mojave, Kern Co.	26-10-14	710	hd. sd. drilling
Meridan Oil Co., No. 1 Antelope, Kern Co.	11- 9-15	3,560	suspended
Bardeen, H. A., No. 1 San Emidio, Kern Co.	18-10-23	1,190	suspended
Bardeen, H. A., No. 2 San Emidio, Kern Co.	10-10-23	4,177	set pipe
Ritchie, J. J., No. 1 Tejon, Kern Co.	33-11-19	4,614	br. sh. drilling
Associated, No. 1 Jacalitos, Fresno Co.	22-21-15	1,105	sd. sh. drilling
Petroleum Securities, No. 3 Huron, Fresno Co.	28-20-16	....	location
Carruthers Oil Co., No. 1 Fresno, Fresno Co.	4-17-20	rig	rigging up
Panorama Oil Co., Well No. 1, San Luis Obispo Co.	7-31-21	4,019	suspended
Latin Amer. Pet., No. 1 Shandon, San Luis Obispo Co.	21-27-15	4,525	suspended
Paso Robles Synd., No. 1 Creston, San Luis Obispo Co.	21-27-11	3,941	suspended
Continental, No. 1 San Miguel, San Luis Obispo Co.	26-25-11	118	sd. drilling
Schilling, C., No. 1 Atascadero, San Luis Obispo Co.	24-28-12	880	sd. sh. drilling
Pismo Dome Oil Co., No. 1 Edna, San Luis Obispo Co.	5-31-13	3,010	br. sh. drilling
Firemans Pet., No. 1 Pismo, San Luis Obispo Co.	13-32-13	mtl.	building rig
Standard, No. 1 King City, Monterey Co.	23-22- 7	5,680	fishing
Brown, F. A., No. 1 Parkfield, Monterey Co.	15-23-14	816	sd. sh. drilling
O'Donnell, J. E., No. 1 Dudley Ridge, Kings Co.	7-23-20	1,635	gas well—idle
Murphy Oil Co., No. 1 Dudley Ridge, Kings Co.	20-23-20	560	sd. drilling
Friend & Fiske, No. 1 Tulare Lake, Kings Co.	11-23-19	1,050	cemented
Knudsen & Smith, No. 1 Reef Ridge, Kings Co.	36-23-17	mtl.	suspended
Wellport Oil Co., No. 1 Devils Den, Kings Co.	9-24-17	3,940	suspended
Twin State Oil Co., No. 1 Point Arena, Mendocino Co.	14-12-17	4,890	sd. sh. drilling
Orinda Pet., Well No. 1 Contra Costa Co.	32- 1- 3	732	hd. sd. drilling
White, Roy, No. 1 Pixley, Tulare Co.	8-23-26	4,495	suspended
Campbell Oil Co., No. 1 Porterville, Tulare Co.	22-22-27	857	suspended
Terra Bella Oil Co., No. 1 Porterville, Tulare Co.	35-22-27	918	suspended
Western Oil Co., No. 1 Porterville, Tulare Co.	35-22-27	1,022	cleaning out
Mills & Wilson, No. 1 Porterville, Tulare Co.	35-22-27	913	cleaning out
Cummings Pet., No. 1 Porterville, Tulare Co.	27-22-27	1,170	suspended
Jennings Synd., No. 1 Porterville, Tulare Co.	8-23-28	510	suspended
Terra Bella Drlg. Co., No. 2 Porterville, Tulare Co.	34-22-27	920	recemented
Terra Bella Drlg. Co., No. 3 Porterville, Tulare Co.	23-22-27	696	sd. sh. drilling
Jaques Oil Co., No. 1 Porterville, Tulare Co.	34-22-27	914	suspended
Rayatt Oil Co., No. 1 Porterville, Tulare Co.	34-22-27	1,090	suspended
Hallock, William, No. 1 Porterville, Tulare Co.	34-22-27	1,090	suspended
Kern Pet. Co., No. 1 Porterville, Tulare Co.	34-22-27	1,184	suspended
Miller & Sylvan, No. 1 Porterville, Tulare Co.	11-23-27	795	sd. sh. drilling
Larson Oil Co., No. 1 Porterville, Tulare Co.	11-23-27	1,160	sd. sh. drilling
Larson Oil Co., No. 2 Porterville, Tulare Co.	11-23-27	124	sd. sh. drilling
Kettleman Trust, No. 1 Porterville, Tulare Co.	21-22-27	880	sd. sh. drilling
Lewis, Paul M., No. 1 Porterville, Tulare Co.	15-22-27	1,118	plugging back
Turk & Campbell, No. 1 Porterville, Tulare Co.	34-22-27	1,352	sd. sh. drilling
Roetner Oil Co., No. 1 Porterville, Tulare Co.	34-22-27	949	sd. sh. drilling
Wells & Armstrong, No. 1 Porterville, Tulare Co.	10-22-27	210	suspended
Dennis Oil Co., No. 1 Porterville, Tulare Co.	29-23-28	590	hd. sd. drilling
Colusa Oil Co., No. 1 Bush, Colusa Co.	31-15- 4	761	hd. sd. drilling
Getty Oil Co., No. 1 Nigger Heaven, Yolo Co.	23-12- 3	2,050	cleaning out

Kerr County Wildcat Shows 39 Gravity

May Open Another New Territory in West Texas. Sulphur Water Shows in Andrews County Producer

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Nov. 3.—Sulphur water in one wildcat which has been producing while drilling slowly ahead, and a good showing of oil in another absolute wildcat were the features for West Texas during the week, the former being located in the Permian Basin while the second test is in the Edwards Plateau region.

Fuhrman Petroleum Corp.'s No. 1 W. T. Ford in Section 16, Block A-43, Andrews County, a wildcat which has been producing around 140 bbls. per day from 4,262 and 4,372-77 feet, with increase in oil at 4,445-50 feet, encountered 2 bailers of sulphur water at 4,612-14 feet on November 2 putting a stop to deeper drilling, and presaging plugging back to the pay zone which will probably be given a shot and tested.

Southern Crude Oil Purchasing Co.'s No. 1 Cowden in Section 26, Block 43, northern Ector County, the wildcat which opened another Ector County pool a few weeks ago, was given a test on November 1 and showed a gauge of 343 bbls. through tubing and eleven-sixteenths-inch choke during a 24-hour period. The next 24 hours it flowed 200 bbls. and the 24 hours ending at 7 a. m., November 3, it gauged 222 bbls. Pressure between the tubing and casing is 1,000 pounds. One 55,000-bbl. tank is almost completed and ready for production from the well.

The company has made a location for its No. 2 Cowden in the NE cor., Section 34, same block, about three-quarters mile due south of No. 1 Cowden, discovery well.

Kerr County Wildcat

Evans and Grant's No. 1 Love, an absolute wildcat, near the north line of Section 1,594, C.C.S.D.&R.G.N.G. Survey, in the southwestern part of Kerr County, is now attracting widespread interest because of a bailer showing of 39 gravity oil which is coming from a white sand at 2,553 feet. Total depth of the hole is 2,557 feet. The nearest production to this test is in Maverick County, about three counties to the southwest, and if this showing of oil materializes into a producer it will be one of the biggest finds in West Texas, opening up a large new territory to a great lease and royalty play.

Probably the nearest geological reference that can be made to the pay horizon is that it is somewhere in the Pennsylvanian, several geologists saying they did not know what stratum was making the showing. As few wells have been drilled in the surrounding counties, and in Kerr County it will probably be a difficult task to correlate the test, if it is at all possible. The test may not bring any increase in oil showings, but the one already made is enough to be of considerable interest to companies and independent operators, who have a belief in the possibilities of this section of southwest Texas.

Western Crane Wildcat

Cranfill Brothers and Gulf Production Co.'s No. 1 Tubb in the SE cor. of the NE of Section 8, Block B-27, western Crane County, the wildcat which caused a great furore October 6 when it topped a deep pay which has been unknown in the Permian Basin, is now fishing at 4,488 feet, and interest has fallen off to a great extent, for the well does not look better than 1,000 bbls. at present, and although a high gravity producer, the great depth at which it is producing greatly detracts from its value. The deep pay was topped at 4,302 feet, and the well flowed 100 bbls. the first five minutes of flow, but only 1,051 bbls. the first 24 hours it was allowed to flow open. More gas was encountered at 4,335 feet, 4,352 feet and 4,395 feet.

Cranfill Brothers and Atlantic Oil Producing Co.'s No. 1 Muir, about 2½ miles south of the well, in Section 23, same block, is now drilling at 3,660 feet. It encountered sulphur water at 3,640 feet. Ordinarily this encountering of sulphur water probably would have caused the abandonment of the test, but since the Cranfill Brothers and Gulf Production Co.'s test encountered sulphur water, then found high gravity oil below it, many others in the basin may be expected to drill through the water in quest of a lower pay horizon, and the Muir well is being drilled to test the pay horizon found in the Tubb well.

A special order was issued by the Railroad Commission this week to the effect that the Big Lake Oil Co. and Continental Oil Co. should tube all their deep wells which were not already tubed, but the Big Lake Oil Co. had ordered special tubing for these wells some time ago, and this tubing will be in the field ready to run by November 6 or 7, the companies showing they are ready to tube the wells and had prepared to do so before the order was issued.

Deep oil and gas production in the Big Lake Field is coming from below 8,500 feet, the shallowest deep well being that of the Texon Oil & Land Co. (Continental Oil Co.'s) No. 2-B University which is bottomed at 8,489 feet with 650 pounds back pressure. Big Lake Oil Co.'s No. 3-C University is the deepest, bottomed at 8,923 feet. The same company's No. 4-C is the largest producer having made a peak daily gauge of 4,043 bbls. on November 2. Total depth is 8,697 feet. Three other deep wells are now drilling.

Western Andrews Test

The Texas Pacific Coal & Oil Co. and Texas Consolidated Oil Co. have made location for their No. 1 Jones in Section 4, Block A-8, a test to be drilled to 4,500 feet. This will be an interesting area about 15 miles northeast of the Hobbs Pool, but in western Andrews County.

Deep Rock Oil Co. has made another location in the Ogden Pool, central Andrews County, the California Co. and Atlantic Oil Producing Co. associating in the test and acreage. The test will be 330 feet south and west of the center of Section 24, Block A-46, to the west of the present producers.

Pecos County

It is reported that the Humble Oil & Refining Co. may carry its No. 1 Kokernot in Section 227, Block 10, G.H.&S.A. Survey, southwestern Pecos County to 8,000 feet. Heavier drilling equipment is now being installed for deeper drilling, the well setting around 4,015 feet.

No new wells or units were added to the Yates Pool during the last proration period, and production figures for the period from November 1 to 15 show the pool having 399 producing wells, 67 of which are making water. On a production test the field showed a potential of 2,750,338 bbls. for 12 hours.

WILDCAT OPERATIONS IN WEST TEXAS

Week Ended November 3

ANDREWS COUNTY

Company, well, farm name, section and block—	Remarks—
Fuhrman Pet. Corp.'s No. 1 Ford, 440 ft. from S and 2,200 ft. from W of Sec. 16, Blk. A-43, Public School Land	Drlg. 4,578 ft.; flowed 150 bbls. by heads for 24 hours ending Oct. 29.
Deep Rock Oil Co. et al's No. 1 King, 330 ft. from N and 2,310 ft. from E, Sec. 11, Blk. A-46	Top pay 4,335 ft.; flows every 4 days; temporarily abandoned; total depth 4,454 ft.

BREWSTER COUNTY

Brewster Oil Co.'s No. 1 fee, 2,640 ft. S and 2,598 ft. E of NW cor. Sec. 45, Blk. G-15, G.C.&S.F. Sur.	Shut down 1,935 ft.
E. L. Chapman's No. 1 Skinner, C SW SE Sec. 100, Blk. 2, G.C.&S.F. Sur.	Shut down 1,302 ft.
Trans-Pecos Oil & Gas Co.'s No. 1 Jones, 920 ft. from N and 2,500 ft. from E of Sec. 18, Blk. G-15, G.C.& S.F. Sur.	Shut down 2,510 ft.
Van McPhail's No. 1 McIntyre, SE cor. Sec. 59, Blk. 352, 7 miles S of Alpine	Shut down 1,750 ft.

CONCHO COUNTY

Beesley et al's No. 1 S. Waring Est., 1,320 ft. from S and E of A. T. Robinson Sur., Abst. 2,120	Spudded and shut down.
Turner et al's No. 1 Borsig, 150 ft. from S of NE cor. G. Emmig Sur. 130, 6 miles W of Paint Rock	Shut down 1,720 ft.

CRANE COUNTY

Cranfill Bros. and Gulf's No. 1 J. B. Tubb, 2,310 ft. from N and 330 ft. from E of Sec. 8, Blk. B-37, Public School Land	Shut down 4,440 ft.; flowed 180 bbls. 24 hours.
Cranfill Bros.' No. 1 Muir, 330 ft. from N and 2,310 ft. from W, Sec. 23, Blk. B-37, Public School Land	Drlg. 3,575 ft.

CROCKETT COUNTY

Dieringer et al's No. 1 Banscorew estate, 330 ft. from N and 2,310 ft. from W of Sec. 27, Blk. HH, G.C.&S.F. Sur.	Location.
Doleman & Moore's No. 1 Perner, 3,135 ft. from N and 1,485 ft. from E of Sec. 36, Blk. 2, I.&G.N. Sur.	Spudded and shut down.
Magnolia Pet. Co.'s No. 2 Hoover, 2,310 ft. from S and 335 ft. from E of Sec. 2, Blk. FF, B.&B. Sur.	Swabbing and bailing 6 bbls. oil per day; total depth 2,056 ft.
Taylor-Link Oil Co.'s No. 1 Mary Bullock et al, 330 ft. from N and E of Sec. 41, T.C. Sur.	Location.

CULBERSON COUNTY

Grisham & Hunter's No. 2 Garren, 2,475 ft. from S and 1,566 ft. from E, Sec. 20, Blk. 89, Public School Land	Shut down 1,520 ft.; show oil 1,400-15 ft.
Kornrumpt et al's No. 1 Garren, 330 ft. S and W, Sec. 15, Blk. 79, Public School Land	Cleaning out 1,025 ft.

DAWSON COUNTY

Albaugh et al's No. 1 Robinson, C NW Sec. 46, Blk. M, E.L.&R.R. Sur.	Standard rig.

ECTOR COUNTY

C. P. Davis et al's No. 1 Hendricks, C SW Sec. 46, Blk. 42, Twp. 2s, T.&P. Sur.	Drlg. 4,560 ft.
H. F. Wurtz' No. 1 E. A. Ibbetson et al, 330 ft. from N and E lines of NW, Sec. 16, Blk. 46, Twp. 3s, G.M. M.Br.&A. Sur.	Drlg. 2,730 ft.

(Continued on Page 105)

COMPLETIONS IN WEST TEXAS

Ector County

Humble Oil & Refining Co. and others' No. 11-D Kloh & Rumsey, top pay 3,628 feet, initial production 1,336 bbls., total depth 3,700 feet. Simms Oil Co. and others' No. 4 University, top pay 3,525 feet, shot 320 quarts 3,507-3,731 feet, initial production 726 bbls., total depth 3,731 feet.

Garza County

Pandem Oil Corp.'s No. 2 Stokes, dry and abandoned, total depth 3,003 feet.

Loving County

Lee O. White and others' No. 1 George Russell and others, top pay 4,213 feet, shot 160 quarts 4,175-4,218 feet, initial production 500 bbls., total depth 4,218 feet.

Pecos County

Curry & Eakin's No. 1 Pecos Valley Oil Co., top pay 1,577 feet, initial production 15 bbls., total depth 1,629 feet. Lockhart & Co.'s No. 1 University, dry and abandoned, total depth 2,100 feet. Tanner, Cromwell and others' No. 1 University, top pay 1,794 feet, shot 80 quarts 1,786-1,815 feet, initial production 38 bbls. oil and 19 bbls. of water, total depth 3,156 feet, plugged back to 1,815 feet.

Upton County

Cordova Union Land Co.'s No. 1 fee, location abandoned.

Winkler County

Prairie Oil & Gas Co.'s No. 1 Johnson, top pay 3,135 feet, initial production 950 bbls., total depth 3,140 feet.

WEST TEXAS PRODUCTION

Week Ending November 1

County—	No. wells	Bbls.
Andrews	2	55
Crane	368	27,350
Crockett	49	1,670
Ector	71	8,090
Fisher	8	1,876
Garza	0	0
Howard-Glasscock	528	31,065
Irion	7	140
Jones	73	1,380
Loving	31	3,025
Mitchell	148	2,140
Pecos	513	106,845
Reagan	253	25,825
Runnels	3	11
Scurry	5	10
Taylor	3	111
Upton	251	7,980
Ward	44	3,885
Winkler	591	59,215
Total this week		280,673
Total last week		275,147
Increase		5,526

RUNS THROUGH TRUNK LINES

Company, size, location—	Bbls.
Atlantic, 10", Houston	24,227
Gulf, 10", Ranger	29,415
Humble, 2" and 8", San Angelo	41,309
Humble, 10" and 12", Station "A"	40,729
Illinois, 2" and 8", Del Rio	33,064
Magnolia, 8", De Leon	20,411
Pasotex, 8", El Paso	11,048
Shell, 10", Healdton	25,988
Shell, 10", Houston	25,169
Texas, 12", Houston	15,325
Total	266,685

RUNS TO WEST TEXAS REFINERIES

Amarillo Ref. Co., Pyote	.....
Big Spring Ref. Co., Big Spring	1,200
Burford Ref. Co., Pecos	4,119
Blue Bonnett Ref. Co., Wickett	.....
Cosden Ref. Co., Big Spring	9,898
Col-Tex Ref. Co., Colorado	7,000
Great Western Ref. Co., Big Spring	2,674
Humble O. & R. Co., McCamey	6,646
Richardson Ref. Co., Big Spring	1,500
Tonkawa Ref. Co., Pyote	669
Wickett Ref. Co., Wickett	175
Total	33,881

TANK CAR SHIPMENTS

Texas P. C. & O. Co., from Hurdle	1,491
Fox & Thorsen, from Mertzon	130
Thomas-Brann, from Grant City	100
Reagan Co. Pur. Co., from Texon	1,060
Orient, from Hurdle	50
Southern C. P. O. Co., from Wickett	19,948
Total	22,779
Total daily average distribution	323,345
Total daily average production (including Lea County, N. M.)	311,524
Daily average from storage	21,321

First Oil Producer in Grayson County

Estimated Good for 40 Bbls. From 933 Feet. Third Well in Burkett Area. Panhandle Curtailment Making Headway

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Nov. 3.—Another price cut hit the Panhandle district October 28 and the Phillips Petroleum Co., one of the major companies purchasing oil in that district, announced it would discontinue such purchase. The Philtex Co., a subsidiary of the Phillips Petroleum Co., has been operating and purchasing in the district. The Bartex Pipe Line Co. is another subsidiary of the Phillips Petroleum Co., and will continue to transport oil in that district, provided that the owner of the oil has his own storage for the oil to be run. Royalty oil under Phillips Petroleum Co.'s leases will be run to storage by the Bartex company, and sold when possible.

Only seven wells were completed in the Panhandle district for the week, five of these being in Gray County, the best making an initial production of only 400 bbls. in 24 hours, so it looks as if operators in this district would not have much trouble in bringing the production down to meet the total outlet of 70,000 bbls. per day which is the new limit asked for at a meeting of operators in Amarillo, October 27. The former total outlet was 80,000 bbls. Daily production is now a little greater than 80,500 bbls., but as few wells have been completed in the district each week, and but few locations reported, curtailment takes on an affirmative appearance. The second price cut for crude from counties in this district will also have a telling effect. The cheapest crude in Gray County now brings 50 cents per barrel, and the top price is 92 cents, while the low price in Carson County is 45 cents per barrel, and the top price 87 cents. This price also applies to Hutchinson County. At the meeting in Amarillo it was recommended that marginal well allowances be made 12 bbls. instead of 25 bbls. as at present.

Wichita Falls Proration

Purchasers in the Wichita Falls district met at Dallas, October 28 and 29, to work out the proration problems facing them in that district, and to divide connections according to the Railroad Commission's recommendations. The daily average runs from this district for September were 64,840 bbls., and the total daily nominations for the ensuing period around 61,992 bbls. Twenty-six thousand barrels is marginal or exempted production and the remainder will be prorated by all the purchasers.

The Prairie Pipe Line Co. curtailed all connected wells in Montague County to 6 bbls. It runs around 1,900 bbls. daily from this county.

Grayson County's First

The Sherman Oil & Gas Co.'s No. 2 Dalton in the Pottsboro area, northwest of Sherman, has been completed as Grayson County's first oil producer after encountering an oil sand from 920-31 feet and an increase in oil from 931-33 feet. Total depth is 933 feet. The well pumped 65 bbls. in 13 hours, but is estimated as good for about only 40 bbls. per day, pumping. Although found at a shallow depth this amount of oil is not causing any excitement, and is rather of insignificant consequence, unless larger wells are brought in when operators and companies will probably flock to the new area to take up surrounding leases.

The Prairie Oil & Gas Co. completed its No. 1 Golson in the Burkett area this week, from the Cross Cut sand at 1,655-80 feet for a 304-bbl. well, making the third well in this part of the field which was extended by the Arcadia Refining Co.'s discovery several weeks ago. That well is now making 119 bbls. per day through a one-sixteenth-inch choke with 140 pounds back pressure. Brown and Eckholm completed the second well in the area, their No. 1 Golson. It is shut in for pipe line connections, but such connections have not been promised the area, and it looks as if the wells would either have to be shut in or the oil run to storage. Prairie may run a line to connect with the producing wells, but has not signified any such intentions to date.

Eastland Pool

The Eastland Pool produced as follows for October 29: Permian Oil Co., four wells, 47 bbls.; Tower and McCanna, seven wells, 58 bbls.; Levi Smith, nine wells, one key well, 165 bbls.; Magnolia Petroleum Co., 15 wells, two key wells, 145 bbls.; Eastland Oil Co., 12 wells, two key wells, 165 bbls.; Midwest Exploration Co., three wells, one key well, 4 bbls.; Diana Oil & Gas Co., two wells, 7 bbls.; total 591 bbls.

The companies started repressuring this pool June 4, 1930, when daily productioin was running around 1,200 bbls. per day.

The Overall Pool produced 414 bbls. on October 29.

COMPLETIONS IN RANGER DISTRICT

Coleman County

Lamb, Grant and others' No. 1 Andras, dry and abandoned, total depth 1,640 feet.

Eastland County

Cranfill and Reynolds' No. 1 Parker, gas sand 863-79 feet, initial production 3,660,000 feet, total depth 879 feet.

Erath County

Texas Pacific Coal & Oil Co.'s No. 2 Diaz fee, total depth 3,345 feet, plugged back to 1,647 feet, shot with 10 quarts at 1,625-40 feet, initial production 431,000 feet of gas, 625 pounds rock pressure.

Shackelford County

Gilman and McMurray's No. 3 Herron, oil sand 830 feet, initial production 25 bbls. oil, total depth 905 feet.

Taylor County

Gibson and Johnson Oil Co. and others' No. 1 Bingham, dry and abandoned, total depth 2,501 feet.

COMPLETIONS IN NORTH CENTRAL TEXAS

Archer County

W. R. Cooper's No. 1 Hamilton, dry and abandoned, total depth 1,212 feet. C. C. William's No. 1 Herron, dry and abandoned, total depth 975 feet.

Baylor County

The Texas Company's No. 1 Holman, dry and abandoned, total depth 2,252 feet.

Montague County

Continental Oil Co. and Bridwell Oil Co.'s No. 5 Cunningham, oil sand 1,249-69 feet, initial production 45 bbls., total depth 1,269 feet. Fleming and Kimball's No. 1 Maddox, dry and abandoned, total depth 2,140 feet. American Refining Property and King's No. 1 Ball, temporary abandoned.

Wichita County

C. Everts and others' No. 1 Valkart, dry and abandoned, total depth 2,106 feet.

Wilbarger County

Lido Oil Co.'s No. 7 Waggoner, total depth 2,753 feet, plugged back to 2,060 feet, oil sand 2,029-38 feet, initial production 5 bbls. of oil and 5 bbls. of water, total depth 2,753 feet. Southwestern Royalty Co.'s No. 3 Waggoner, oil sand 2,445-56 feet, initial production 46 bbls., total depth 2,457 feet.

Young County

C. E. Beaver's No. 1 Belknap C. Co., oil sand 1,689 feet, initial production 105 bbls., total depth 1,692 feet. A. Goldsmith's No. 1 Kunkel, dry and abandoned, total depth 1,250 feet. Martin & Maer's No. 1 Jeffery, dry and abandoned, total depth 902 feet. Sheldon & Shaw's No. 1 Belknap C. Co., oil sand 697-711½ feet, initial production 365 bbls., total depth 713 feet. Stafford & William's No. 1 White, dry and abandoned, total depth 652 feet. The Texas Company and McKanna's No. 1 Jeffery, oil sand 750-65 feet, initial production 55 bbls., total depth 765 feet. T. G. William's No. 1 Smith, dry and abandoned, total depth 1,080 feet. Wooten & Reed's No. 2 Bryan and others, dry and abandoned, total depth 790 feet. P. M. Yell & Son's No. 1 Williams, dry and abandoned, total depth 644 feet. Grubbs and others' No. 1 Weaver, dry and abandoned, total depth 860 feet. Hamilton and others' No. 1 Mills, dry and abandoned, total depth 750 feet. Hynds & Parker's No. 1 Epstein, dry and abandoned, total depth 2,635 feet. Long and others' No. 1 Crow, dry and abandoned, total depth 2,907 feet. McDonald & Webb's No. 1 Johnson, dry and abandoned, total depth 795 feet. Thompson and others' No. 2 Daws, dry and abandoned, total depth 1,467 feet.

COMPLETIONS IN PANHANDLE DISTRICT

Carson County

North American Oil & Gas Co.'s No. 1 Burnett, initial production 52,000,000 feet of gas from 2,000-2,300 feet, total depth 2,300 feet.

Gray County

Danciger Oil & Refining Co.'s No. 6 Morse, top pay 2,665 feet, initial production 30 bbls. on pump, total depth 2,702 feet. Empire Gas & Fuel Oil Co.'s No. 3 Sailor, top pay 3,172 feet to 3,207 feet, shot 120 quarts, initial production 313 bbls. swabbing in 18 hours, total depth 3,243 feet. Phillips Petroleum Co.'s No. 3 Bowers, top pay 3,262 feet, initial production on pump 15 bbls., total depth 3,272 feet. Skelly Oil Co.'s No. 22 Schafer top pay 3,147 feet, shot 210 quarts 3,147-3,262 feet, initial production 310 bbls., total depth 3,275 feet. The Texas Company's No. 2 Combs & Worley, top pay 2,990 feet, deepened from 2,940 feet on September 21, 1929, to total depth 3,010 feet, initial production 50 bbls.

Hutchinson County

Combination Oil & Gas Co.'s No. 1 Johnson Brothers, top pay 3,048 feet, initial production estimated 400 bbls., total depth 3,063 feet.

WILDCAT OPERATIONS IN TEXAS PANHANDLE

Week Ending November 3

CARSON COUNTY

Company, well, farm name, section and block—	Remarks—
Empire G. & F. Co.'s No. 1 Jordan et al, C SE, Sec. 94, Blk. 4, I.&G.N. Sur.	Drlg. 900 ft.
Empire G. & F. Co.'s No. 1 Simms, 2,310 ft. N, 990 ft. E. N½, Sec. 12, Blk. 7, I.&G.N. Sur.	Drlg. 2,000 ft.
Gibson Oil Corp.'s No. 1 Foster & Co., C NW, Sec. 24, Blk. 7, I.&G.N. Sur.	Rigging up.
Plains Holding Co.'s No. 1 McConnell, C NW, Sec. 45, Blk. 4, I.&G.N. Sur.	Spudded.
Krebs & Barnard's No. 1 Barnard, 660 ft. S and W, NW, Sec. 24, Blk. 4, I.&G.N. Sur.	S.D. 800 ft.
Magnolia Pet. Co.'s No. 1 Burnett, 330 ft. N and W, W½ NW, Sec. 101, Blk. 4, I.&G.N. Sur.	Location.
North American O. & G. Co.'s No. 1 McEwen, C SE, Sec. 1, Blk. 4, I.&G.N. Sur.	Spudded.
Texas Interstate P. L. Co.'s No. 1 Burnett, C W 100 ac., SW, Sec. 84, Blk. 5, I.&G.N. Sur.	Rotary rig.

CHILDRESS COUNTY

C. L. Sloane et al's No. 1 B. P. Smith, Sec. 49, F. P. Knott lands	T.D. 5,000 ft.

COLLINGSWORTH COUNTY

Dixon et al's No. 1 Bell, 330 ft. N, 1,320 ft. W, Sec. 102, Blk. 21, H.&G.N. Sur.	S.D. 300 ft.

GRAY COUNTY

Amalgamated German-American Oil Co.'s No. 1 Webb, 330 ft. S and W, E½ NW, Sec. 12, Blk. A-9, H.&G.N. Sur.	Drlg. 2,915 ft; G.W. pay 2,912-15 ft; C.O. after 500-qt. shot.
British-American Oil Co. and Shell Pet. Corp.'s No. 1 Smith, 330 ft. S and E, NW, Sec. 138, Blk. 3, L.&G.N. Sur.	Location.
British-American Oil Co. and Shell Pet. Corp.'s No. 1 Richardson, 330 ft. N and W, E½, Sec. 127, Blk. 3, I.&G.N. Sur.	S.D. 3,290 ft; reshot with 180 qts. 3,196-3,241 ft; estimated 150 bbls. oil and 75 bbls. wtr.
British-American and Shell Pet. Corp.'s No. 2 Richardson, 330 ft. NE W½ NE, Sec. 127, Blk. 3, I.&G.N. Sur.	Standardizing 2,878 ft.
Beck's No. 1 Sullivan, 330 ft. N and E, W½ NW, Sec. 135, Blk. 3, I.&G.N. Sur.	Drlg. 1,410 ft.
Brown et al's No. 1 Duncan, 330 ft. S and E, NW, Sec. 93, Blk. 3, I.&G.N. Sur.	Spudded and S.D.
Cockrell-McIlroy's No. 2 Allam, 330 ft. N and W, E½ NE, Sec. 127, Blk. 3, I.&G.N. Sur.	Drlg. 3,270 ft; T.P. 3,260-70 ft; 200 ft. oil in hole.
Cockrell-McIlroy Oil Co.'s No. 1 Harbaugh, 1,363 ft. N, 330 ft. W, Lot 182, Sec. 114, Blk. 3, I.&G.N. Sur.	Standardizing 3,227 ft.
Cree & Hoover's No. 1 Wright, 330 ft. N, 1,000 ft. E. Sec. 13, Blk. 3, I.&G.N. Sur.	Location.
Empire G. & F. Co.'s No. 1 McCullough, 1,320 ft. S, 886 ft. W, Sec. 153, Blk. 3, I.&G.N. Sur.	Standardizing.

(Continued on Page 104)

NORTH TEXAS PRODUCTION
Week Ended November 1

Panhandle district—	
Carson County	7,305
Hutchinson County	16,135
Gray County	55,980
Moore County	665
Potter County	0
Wheeler County	455
Total this week	80,540
Total last week	86,916
Decrease	5,376
Wichita Falls district—	
Archer County	14,335
Baylor County	940
Clay County	635
Cooke County	3,216
Foard County	141
Jack County	2,275
Haskell County	41
Montague County	6,281
Throckmorton County	745
Wilbarger County	16,735
Wichita County	23,355
Young County	11,466
Total this week	80,165
Total last week	80,505
Decrease	340
Ranger district—	
Brown County	5,465
Callahan County	2,955
Coleman County	2,620
Comanche County	1,101
Palo Pinto County	506
Eastland County	4,380
Shackelford County	5,600
Stephens County	5,375
Total this week	28,002
Total last week	28,046
Decrease	44

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AS GOOD AS THE CHAMPION DERRICK

Here is a strong pitman—of structural steel, reinforced, electrically welded. The continuously lubricated bearing is self-aligning and easily operated. It has a quick opening and closing mechanism and convenient adjustment for bearing wear. Moore pitmans are punched for A. P. I. stirrups unless otherwise specified. Standard lengths, from eleven to fourteen feet. The longer sizes may be shortened in the field quite readily, as punching for all lengths is provided at the factory. . . . The walking beam shown is the Moore D. W. Series, with removable babbitted bearing.

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DALLAS, TEXAS WICHITA, KANSAS CASPER, WYO.

SHREVEPORT, LA. HOUSTON, TEXAS

Stocks in All Principal Fields

Pipe Line Construction News

STANDARD PIPE DEMAND IS RUNNING HEAVIER

By B. E. V. Luty

PITTSBURGH, Pa., Nov. 3.—Demand for standard pipe has been running distinctly heavier in the past month than for several months, and in some quarters the average operating rate of butt weld pipe furnaces is estimated as high as 50 per cent. This is recognized as a temporary bulge, due to steam fitting and other work in preparation for winter.

There have been no large line pipe orders for four weeks although there are large projects still being talked of. There is a more or less steady run of small orders for line pipe, for various connections, some of the orders occasionally calling for as large as 20-inch diameter.

Producers of fire weld line pipe are running to an extent on current orders for small lots. In electric weld there are some orders to last quite a while still and there are one or two orders for seamless that would require months to complete, although it is not certain how fast deliveries will be acceptable on them during the winter.

The general rate of steel production has undergone little if any further decrease in the last fortnight. It decreased slightly from August to September and then a little further for the fore part of October. Lately the rate has been scarcely above 50 per cent of capacity, measured in ingots or raw steel, but this is not as bad as it looks since capacity has increased materially in recent years, and more apparently than have steel consuming requirements based on normal or average general business activity.

The steel market is being watched closely for results from the recent semi-annual meeting in New York of the American Iron & Steel Institute, where there was some plain speaking as to the condition and future of the steel trade. James A. Farrell, president of the Steel Corp., said he could not see any improvement in the steel makers' position until they were more honest in their competition, but that with proper conduct the industry could be got into good shape in 60 days, the idea being that steady and stiffening steel prices would bring out demand and from a 50 per cent operation there might be a rise to a 75 per cent operation.

To date the record has been of declining prices or irregularities in lines which have shown no open declines. The latest is so much selling of black sheets at down to 2.35 cents that the market is quotable at 2.35 cents to 2.45 cents when it had been quotable simply at 2.45 cents subject to some shading. In galvanized sheets, formerly called 3 cents to 3.10 cents, there is no longer any effort to obtain 3.10 cents and 3 cents is sometimes shaded. Bars, shapes and plates are all quotable at 1.60 cents but in some structural jobs prices much lower are certainly made as shown by the low prices at which bids are made on the fabricated steel. Just how much tonnage of plates and shapes goes at around 1.60 cents and how much at far below that figure cannot be estimated.

During the first eight months of the year fabricated structural steel lettings were quite uniform month by month, and at only a slight decrease from last year, but the September report just issued is quite poor.

WATER WELL CONTRACT

D. L. McDonald, a drilling contractor of Amarillo, Tex., has received a contract to drill a water well every 50 miles along the right of way of the Phillips Petroleum Co.'s new 8-inch gasoline line from Borger, Tex., to St. Louis, Mo. The water will be used to supply the booster stations.

LONE STAR RUSHING CONSTRUCTION ON NATURAL GAS LINE TO NEBRASKA

By L. E. Bredberg

FORT WORTH, Tex., Nov. 3.—Racing against the oncoming winter, with over 450 miles of 24-inch main line completed, construction crews are rapidly closing gaps in the 24-inch carrier of natural gas from the Texas Panhandle through Kansas, Nebraska and Iowa, projected by the North American Light and Power Co. and the Lone Star Gas Corp.

The south end of the line from Ashland, Kansas, to the Panhandle is completed with the exception of an 18-mile stretch from the Canadian river south to the gathering point. A 24-mile stretch from Ashland north to Mullinville, Kansas, has been completed.

From Clifton, Kansas, starting point for the north end of the line, work has been completed on 145 miles of 24-inch main line to Pacific Junction across the Missouri River into Iowa. A 16-inch line running from this point to the Lincoln measuring station has been completed, a 20-inch stretch has been laid from the Lincoln tap to a point near Leshara, Nebraska, and about 30 miles of 16-inch have been completed on the line from Leshara north to Missouri River near Sioux City, Iowa.

Preparations for the change-over from artificial to natural gas have been made in the Beatrice, Plattsmouth and Fairbury, Nebraska, and these cities are now using gas from the new line.

Tap lines are yet to be laid to serve Sterling, Tecumseh, Auburn, Pawnee City, Blue Springs, and Humboldt, Nebraska, and a branch will be constructed from the main line north of Beatrice to Seward and David City, Nebraska.

The Clifton compressor station is about 90 per cent complete, while contract for work on the station at Abilene, Kansas, has been let to Boaz-Kiel Construction Co. of St. Louis. Julian L. Foster of the Lone Star Gas Co. is in charge of construction at Clifton, and N. M. Foster of the North American Light and Power Co. is in charge at Abilene.

Plans and specifications are out to contractors and bids will be received in a few days on a suspension bridge over the Canadian River. This will be composed of eight 320-foot spans with half spans on each end. Work is just getting under way on the concrete bent bridge over the North Canadian or Beaver River in Oklahoma, which should be finished by the latter part of November.

The bridge across the Cimarron River, which is also a concrete bent type of bridge, is about 75 per cent complete. A suspension bridge across the Little Blue River near Hollenberg, Kansas, is about 90 per cent complete, and another suspension bridge across the Big Blue River near Beatrice, Nebraska, is practically complete. The pipe will be put on this bridge in a few days and the final bridge adjustments will be made immediately after the pipe is placed.

Near Fremont, Nebraska, a suspension type bridge across the Platte River is over 30 per cent complete, and the Elkhorn River suspension bridge near Hooper, Nebraska, is about 20 per cent complete. The 24-inch line has been placed on the Plattsmouth toll bridge across the Missouri River and plans are about completed for the installation of a 10-inch line to cross the Chicago, St. Paul, Minnesota and Omaha Railroad bridge across the Missouri near Sioux City.

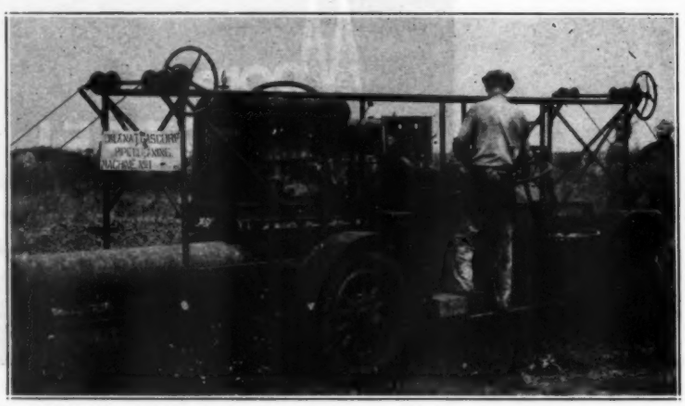
The design is about completed and some material has been ordered for the stabilizing plant and compressor station which is located near Mullinsville, Kansas.

While most of this work is being done by construction companies under contract, the Lone Star Co. has several men working on the line, compressor stations and river crossings. Mr. Delmas supervises the construction of bridges, T. E. Waddill and Luther Tolbert keep check on the laying of pipe and placing of pipe on bridges, and Paul King, supervises engineering work on the bridges, line up stakes, fixes elevations and inspects the work to be sure specifications are being followed.

WICHITA GAS CO. TO BUILD LINE

The construction department of Wichita Gas Co. will lay a new 8-inch high pressure line to feed a series of governors and improve the service to domestic customers in that section of the city. The new work involves about 7,200 feet of 8-inch steel main.

GAS PIPE CLEANED AND COATED WHILE BEING RELAID



The Oklahoma Natural Gas Corp. has completed a pipe renewal job on its line from the Chickasha gas field to Oklahoma City. Three miles of this 12-inch line, which is 53 miles long, had to be removed and relaid on account of the widening of a highway. The pipe, placed underground seven years ago, was not in bad condition, but having to handle it anyway, the company took the opportunity of machine-cleaning each joint and applying a preservative coating before reburying it.

ASK PERMIT FOR LINE KENTUCKY TO DETROIT

DETROIT, Mich., Nov. 1.—A permit for the construction of a 22-inch natural gas pipe line into Detroit from gas fields in Kentucky to supply Detroit industries has been filed with the Detroit council by the Northern Industrial Gas Co. If the permit is granted work will be started immediately on the line 390 miles long so as to rush it to completion by next June. The cost is estimated at $25,000,000. Minimum capacity of 150,000,000 feet a day will be furnished. A considerable number of Detroit industries, it is claimed, have already made contracts for the gas.

The Columbia Gas & Electric Corp. has contracted to acquire all the natural gas properties of the American Utilities and General, Moody-Seagraves and Hope Engineering interests east of the Mississippi River. The deal will include more than 1,000,000 acres of natural gas producing lands in eastern Kentucky, pipe lines, cotnracts, rights of way and franchises, besides the application for a franchise to supply natural gas in Detroit.

The properties, estimated in financial circles to be worth around $16,000,000, constitute the second group of properties to be taken over by the Columbia system in recent weeks.

YOUNG COUNTY EXTENSIONS

FORT WORTH, Tex., Nov. 3.—The Texas Pipe Line Co. is stringing pipe for the construction of a new line to traverse the shallow pools in north Young County.

The line when completed will have a length of approximately 11 miles and will use 4-inch and 5-7/8-inch pipe. A pump station will be built in the southeast corner of Section 32, T.E.L. Survey, from which a line will extend north to the Texas-McKanna Pool in Section 42, T.E.L. Survey. Another line will be extended to the Larimore Pool in Section 2244 and 2248, where gathering lines will transport the crude to the pump station where it will be discharged into the main line of the Olney-South Bend artery about 9 miles south of Olney.

MOUNT PLEASANT GAS LINE

MUSKEGON, Mich., Nov. 1.—Right-of-way for a pipe line from the Broomfield Township, Isabella County, dry gas wells to the city of Mount Pleasant has been leased by the Michigan Natural Gas Corp. Although it may be some time before laying of the proposed line will be started the company has been working on the right-of-way since it was organized last July. A working agreement with the Consumers Power Co. will provide an outlet for any natural gas piped from the field by the Mount Pleasant corporation.

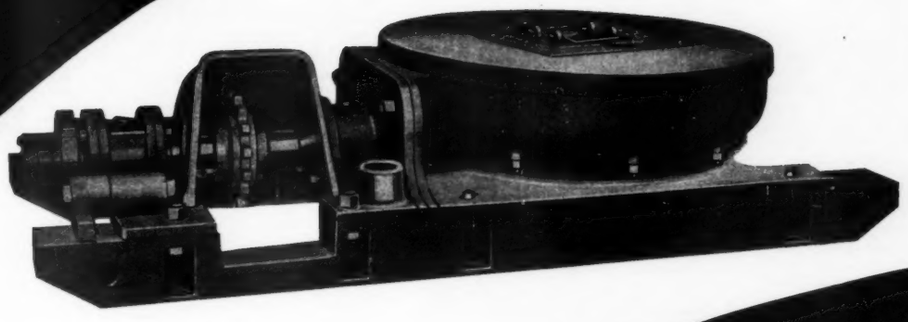
Since the original Broomfield gasser was completed in the Marshall formation several other large gas wells have been struck, increasing the potential daily gas production of the area to about 30,000,000 feet.

DRY CREEK FIELD LINE

CASPER, Wyo., Nov. 1.—The Ohio Oil Co.'s pipe line department is laying a 6-inch line from Dry Creek Field in Carbon County to Bridger on the Burlington. This pipe line will convey the light oil production from the Dry Creek Field to the railroad and a loading rack is being built at Bridger to load the cars. The Ohio Oil Co. also has a gas line from this field to a connection with the gas line from Wyoming to Billings.

Gumbo Buster PIONEERED

Perfect rotation at any depth



See Pages 10 to 14 of **Composite Catalog** of Oil Field and Pipe Line Equipment illustrating part of **"Gumbo Buster"** Line.

OIL BATH Rotary

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Republic Supply Company

OIL AND GAS WELL SUPPLIES

Cable and Rotary Tools

GENERAL OFFICES: HOUSTON, TEXAS

OKLAHOMA FIELDS

(Continued from Page 42)

the area, where wells are producing from the shallow sands. The Oil States Corp. and Weaver & Carigin's No. 1 Frederick, C SW NE Section 4-24-1w, a wildcat, was abandoned as a dry hole at a total depth of 2,660 feet.

Boucher Oil Co.'s No. 1 Jefferson, NE cor. SW Section 32-26-1w, Kay County, wildcat, is cleaning out at a total depth of 1,210 feet after being shut down for some time.

One of the attractions to the area is the ling-lived production found in some of the producing horizons thereabouts. Carter Oil Co.'s No. 1, C NE SW Section 30-25-1w, which is located between the northwest extension to the Tonkawa Pool and the Alcorn Pool, was completed five years ago in the chat at a total depth of 4,300 feet, and it has been averaging 20 bbls. a day on the pump. Wells producing from the chat in this area and in Sumner County, Kansas, produce a number of years on the pump.

Oklahoma City Completions

During the week several large wells were completed in the Oklahoma City Pool and a total of 17 were completed and shut in for the regular proration time of 65 days. Wirt Franklin Petroleum Corp.'s No. 1 Page-Tucker, SW cor. SE, Section 35-12-3w, made 1,792 bbls. in eight hours from sand at 6,205-6,527 feet. Anderson-Prichard Oil Corp.'s No. 1 Gibbons, SE cor. NE, Section 2-11-3w, made 1,149 bbls. in four hours from sand at 6,115-6,491 feet. The gas was estimated at 49,000,000 feet. Jack Shaffer and others' No. 2 Vinita Park, NW cor. SW, Section 2-11-3w, made 885 bbls. in eight hours from sand at 6,250-6,336 feet. Wirt Franklin Petroleum Corp.'s No. 1 Shahan, SE cor. SW SW, Section 2-11-3w, made 393 bbls. in three and a quarter hours from sand at 6,212-6,533 feet. Cromwell-Franklin Oil Co.'s No. 34 Trosper Park, NW cor. SE SW, Section 12-11-3w, made 1,561 bbls. in eight hours from sand at 6,221-73 feet. Indian Territory Illuminating Oil Co.'s No. 2 Huffman, NW cor. SW, Section 14-11-3w, made 113 bbls. in 55 minutes from sand at 6,340-6,598 feet. Same operator's No. 2 Phelans Heights, SE cor. NE, Section 15-11-3w, made 525 bbls. in eight hours from sand at 6,350-6,610 feet. Same company's No. 5 M. K. & T., SW cor., Section 35-12-3w, made 422 bbls. of pick up oil from sand at 6,240-6,388 feet. No. 2 M. K. & T., SW cor. SE SW, Section 35-12-3w, made 40 bbls. the first hour from sand at 6,200-6,540 feet. No. 3 Ferndale, SW cor. NE NE, Section 11-11-3w, made 3,120 bbls. in eight hours from sand at 6,455-6,549 feet. Sinclair Oil & Gas Co. and Independent Oil & Gas Co.'s No. 3 School Land, SE cor. NE SW, Section 36-11-3w, made 1,517 bbls. in two hours from sand at 6,615-6,700 feet. Tom Slick Oil Co.'s No. 1 Wespaco, SE cor. SW SE, Section 34-12-3w, made 2,436 bbls. in one hour from sand at 6,310-6,503 feet. Same company's No. 1 Lard, NW cor., Section 2-11-3w, made 4,667 bbls. in two hours from sand at 6,252-6,578 feet. Skelly Oil Co.'s No. 1 Field, SW cor. NE NE, Section 10-11-3w, made 4,635 bbls. in three and a quarter hours from sand at 6,266-6,502 feet. Morgan Royalty Co.'s No. 1 Stout, NW cor. SE NW, Section 2-11-3w, made 227 bbls. in eight minutes from sand at 6,210-6,510 feet. The gas volume was estimated at 55,000,000 feet a day.

Shallow Gas in Kay County

New gas wells were completed in the old Blackwell Field in Kay County in the shallow sands. M. A. Blankenship and others' No. 1 Myers, SE cor. NE NE, Section 6-28-1w, was completed for 2,000,000 feet of gas at a total depth of 750 feet. National Refining Co.'s No. 1, in the NW cor., Section 6-28-1w, has been shut in for 1,000,000 feet of gas from sand at a total depth of 600 feet. L. H. Wentz' No. 1 Mason, NE cor. NW, Section 8-28-1, was shot in sand at 3,411-17 feet, and increased the oil production from 16 bbls. a day to 60 bbls. a day. Summitt Drilling Co.'s No. 1, in the NW cor. NE, Section 24-28-3, Kay County, is a location. Alco Royalty Co.'s No. 1 Wolff, SE cor. SW SE, Section 34-26-2w, a wildcat in western Kay County, was completed for 5,000,000 feet of gas at 4,390-4,420 feet.

Oklahoma City Oil Shipments

The total shipments from the Oklahoma City Field for the week ending October 27, were 564,930 bbls. The daily average shipments by companies were as follows:

Pipe line company—	Daily av. bbls.
Empire	19,812
I.T.I.O.	2,517
Magnolia	7,730
Oklahoma	12,150
Prairie	14,912
Stanolind	15,656
Sinclair	1,398
Tidal	2,915
Champlin	2,138
Century	1,477
Total	80,705

Greater Seminole Production

The Greater Seminole production for the week ending October 27 follows:

Pool—	Wells	Bbls.
Little River	372	23,822
East Little River	85	11,912
Carr City	70	10,033
Maud	135	3,100
Mission	92	7,146
Bowlegs	278	13,675
Earlsboro	283	18,393
South Earlsboro	27	8,475
East Earlsboro	157	18,603
Seminole	259	13,615
East Seminole	33	2,158
Searight	86	6,613
Allen	273	13,567
Asher	26	1,074
Wanette	39	7,640
Konawa	101	17,622
Sasakwa	51	5,306
St. Louis	482	31,789
Total	2,849	204,543

Greater Seminole Shipments

The pipe line shipments from the Greater Seminole area total 182,925 bbls. for the week ending October 27. The daily average from the various pools were as follows:

Company—	Semi-nole bbls.	Asher-Pearson St. Louis bbls.	Kon-awa bbls.
Barnsdall	2,810	.....	.....
Champlin	3,788	.....	638
Consolidated	.....	2,589	.....
Cosden	7,393	.....	5,091
Deep Rock	1,456	400	.....
Empire	3,648	.....	.....
Gulf	17,070	1,542	154
Magnolia	3,536	5,706	.....
Oklahoma	22,379	135	225
Prairie	13,534	4,607	3,499
Prod. & Refrs.	1,707	.....	.....
Pure	5,040	.....	.....
Shell	3,601	158	1,289
Stanolind	27,362	7,045	3,762
Texas	7,459	4,727	2,911
Tidal	9,311	3,670	.....
White Oak	90	.....	.....
Total	130,684	30,579	17,879
Tank cars	2,660	1,123	
Grand total	133,344	31,702	

Oklahoma City Pool

	S.T.R.	No. Well	Bbls.
Anderson-Prichard:			
Gibbons	1-11-3w	4	344
Habegger	14-11-3	1	206
Key	2-11-3	1	74
Roosevelt Place	2-11-3	5	224
Century:			
Jefferson	2-11-3	1	104
Wyatt	2-11-3	1	413
Colne:			
Clour	25-11-3	16	1,102
Olds	24-11-3	10	1,325
Warren	18-11-2	8	848
Continental:			
Sudik	6-10-2	3	968
Crom.-Franklin:			
T. Park	13-11-3	30	7,794
Government:			
Government	14-11-3	1	63
Hall Briscoe:			
Holmes	10-11-3	4	2,190
Lindsey	14-11-3	3	1,555
Muller	2-11-3	1	1,113
I. T. I. O.:			
Bod. Anderson	30-11-2	3	15
Bodine, A.	24-11-3	6	265
Bodine, S.	30-11-2	3	77
Borden	23-11-3	1	130
Brokaw, C.	13-11-3	4	129
Button	19-11-2	5	428
Coppinger	11-11-3	8	155
Corff	11-11-3	5	411
Drake	14-11-3	2	1
Emmerson, N.	30-11-2	11	143
Farley, Fuzzell	19-11-2	2	40
Ferndale, Comm.	11-11-3	4	379
Fortson, E.	24-11-3	3	82
Fuzzell, M.	19-11-2	3	37
Habegger	14-11-3	2	594
Handl	11-11-3	1	140
Holmes-Gray	14-11-3	1	101
Huffman	14-11-3	2	188
Jennings	13-11-3	3	153
Johnson	25-11-3	9	624
Jones, H. W.	1-11-3	4	392
Jones	31-11-2	14	2,909
Jones, Comm.	1-11-3	4	1,982
K. Henning	24-11-3	3	14
Lemmon	11-11-3	2	228
M. K. & T.	35-12-3	3	64
Oklahoma City	24-11-3	1	68
Pasadena Heights	14-11-3	3	179
Peterson, Sad	25-11-3	8	990
Phelans	15-11-3	2	75
Procure, E.	11-11-3	2	271
Salasman	32-11-2	5	55
Spannag.e	15-11-3	1	254
Spillman	14-11-3	3	387
Starkey	11-11-3	2	451
Sudik	31-11-2	11	3,311
Thelmer, E.	12-11-3	7	2,339
Trosper	13-11-3	10	689
Trosper, Clark	14-11-3	4	234
Trosper, H. G.	14-11-3	5	11
Unsell-Krager	23-11-3	3	377
Viewpoint	10-11-3	2	643
Waters	23-11-3	6	208
Wheeler	13-11-3	3	147
Wilkie-Ander.	25-11-3	3	75
Julian:			
Shepard	14-11-3	1	195
Mid-Kansas:			
Browning	18-11-2	2	47
Fortson	24-11-3	5	114
Mollman	23-11-3	4	138
Tros-Browning	18-11-2	1	38
Trosper, D. B.	19-21-1	1	183
Ramsey:			
Messer	32-14-3	1	331
Minnehoma:			
Pugh	2-11-3	1	1,332
Oils, Inc.:			
Ross	2-11-3	1	3,114
Phillips:			
Ciger	2-11-3	1	545
Jones	1-11-3	1	182
Sinclair:			
Hatcher	10-11-3	1	270
Lybrand	2-11-3	1	460
Plains-Denver:			
Whitten	14-11-3	1	487
Prairie-Sick:			
Hiddleston	19-11-2	8	447
Sigman	32-11-2	7	1,173
Reynolds, W. R.:			
Hastings	1-11-3	1	1,001
Shaffer, J. C.:			
Childs	14-11-3	1	161
Vinita Park	2-11-3	2	126
Snell:			
Petty	30-11-2	7	35
Sinclair:			
S. Land No. 54	36-11-3	16	2,059
S. Land No. 67	36-11-3	4	397
Vencel	31-11-2	16	8,974
Sinclair-Amerada:			
Kinter	30-11-2	10	28
Sinclair:			
Donnell	23-11-3	1	230
S. Land No. 69	36-11-3	3	398
Skelly:			
Dunn	1-11-3	1	1,325
Skelly et al:			
Dillon	2-11-3	2	268
Hoops	31-11-2	8	1,502
Tanner	10-11-3	2	523
Slick, T. B.:			
Bailey	1-11-3	1	502
Daugherty	2-11-3	1	205
Foote	2-11-3	2	24
Frost, C. G.	10-11-3	1	96
Frost Heights	10-11-3	4	94
Glidden	13-11-3	2	41
Martin	1-11-3	1	115
Rodman	2-11-3	1	18
Slick et al:			
Baker	1-11-3	5	92
Danreuther	2-11-3	3	192
Page	14-11-3	2	214
Houghton	1-11-3	1	508
Key	2-11-3	2	37
Milner	1-11-3	2	1,876
Zerkerle	13-11-3	1	74
Hoops	31-11-2	8	861
Hussman	29-11-2	1	213
Slick-I. T. I. O.:			
Dennis	11-11-3	1	784
Wirt Franklin:			
Eacock	11-11-3	1	882
Lowery	12-11-3	10	5,692
Page, Tucker	35-12-3	1	256
Shahan	2-11-3	1	56
Theimer	2-11-3	12	1,681
Wright	2-11-3	3	521
Wright-Smith:			
Smith	2-11-3	2	149
Total		626	79,774
Last week		609	93,116

New wells 17. Decrease 13,342 bbls.
Average per well for pool, 127 bbls.

Carter County

Magnolia Petroleum Co.'s No. 2 Brady, SW cor. SE, Section 13-1s-3w, has been completed for 130 bbls. in sand 2,222-27 feet and broken sand 2,227-60 feet. No. 1 M. Dickerson, NW cor. NE SE, Section 24-1s-3w, is dry and abandoned at 4,240 feet. Wirt Franklin Petroleum Corp.'s No. 4 Mitchell, NE cor. SE SE, Section 24-1s-3w, swabbed 503 bbls. from sands 2,174-2,318 feet. J. R. Hudson and others' No. 1 Meeks, NW cor. SW SW, Section 19-1s-2w, has been completed for 15 bbls. in sands 2,146-2,265 feet. George L. Pace and others' No. 1 W. E. Mitchell, NW cor., Section 30-1s-2w, made 60 bbls. in sand 2,252-60 feet.

Hughes County

Holm & Jarvis' No. 1 Brown, SE cor. NW NE, Section 17-7-8, has been completed for 43,000,000 feet of gas in sand 2,930-50 feet.

Marshall County

Bilbo Oil Corp.'s No. 16 Taliferro, NW cor. NE SE, Section 14-5s-5, Madill Pool, has been abandoned at 660 feet.

Osage County

John W. Fitzgerald staked location for No. 1, NW cor. SW, Section 26-27-11. Utilities Production Co.'s No. 23, SE cor. NW SW, Section 6-26-7, is a machine rigging up. Bacon & Voyles made location for No. 7, NE cor. NW SW, Section 30-23-9. W. D. Gray and others' rig is up for No. 7, NW cor. SE NW, Section 19-22-11. Mid-Continent Petroleum Corp.'s No. 2, NW cor. SW NE, Section 34-20-10, is spudding. Gillespie & Sons' No. 16, SE cor. NW NE, Section 8-20-12, is an old well rigging up to deepen from 1,491 feet.

Pawnee County

Brewer and others' No. 1-A Needham, CEL NW NE, Section 1-20-7, is rigging up. Jacob Fell's No. 1 Gibbons, NE cor. SE, Section 31-21-9, has been completed for 5 bbls. in Layton sand 1,068-88 feet. Mid-Continent Petroleum Corp.'s No. 36 School, NE cor. SW SE, Section 36-20-5, is dry and abandoned at 4,100 feet. Doctor Harrington and others' No. 1-A Keystone Townsite, Lot 30, Block 45, C SE NE, Section 25-20-9, has been deepened to 2,026 feet and abandoned.

Pontotoc County

Universal Oil Co.'s No. 1 Martin, NE cor., Section 36-5-6, is dry and abandoned at 1,964 feet. No. 1 Slates, NW cor., Section 31-5-7, has been abandoned at 4,049 feet.

Pottawatomie County

W. J. Martin and others made location for No. 1 Brown, NE cor. NW SW, Section 2-9-4. Payne and others' No. 4 Bullock, NW cor. SE NE, Section 22-6-3, West Asher Pool, is a rig being built. H. F. Wilcox Oil & Gas Co. is erecting the rig for No. 8 Warren, SE cor. NE SW, Section 23-6-3. Magnolia Petroleum Co. is erecting the rig for No. 1 Alexander, NE cor., Section 27-6-3. Lippa and others' No. 1 Helmerich, NE cor. NW, Section 11-8-4, is dry and abandoned at 4,685 feet. Atlantic Oil Producing Co.'s No. 1 Thomas, NE cor. NW, Section 9-7-4, flowed 256 bbls. from Hunton lime 3,661 feet, total depth 3,941 feet.

Seminole County

Houston Oil Co. made location for No. 1 Mainard, SE cor., Section 24-8-7. Ligon & Todd's No. 2 Wewoka Townsite, center of Block 10, SW cor. NE NE, Section 30-8-8, is a cellar. Ramsey Petroleum Co. made location for No. 3 Davis, SE cor. NE NW, Section 30-8-8. Deep Rock Oil Corp. is building the rig for No. 2 Douglas 10 acres, NE cor. SW NE, Section 30-8-8. The cellar has been dug for No. 2 Douglas 60 acres, NE cor. SW, Section 30-8-8. Carter Oil Co.'s No. 7 Coker, NW cor. NE SW, Section 2-8-5, Carr City Pool, has been completed for 886 bbls. in Wilcox sand 4,189-4,202 feet. Mid-Continent Petroleum Corp.'s No. 5 Bruner, SE cor., Section 11-7-6, Little River Pool, made 2,125 bbls. from Gilcrease sand 3,147-63 feet.

Creek County

C. O. Buckles moved a machine in for No. 1 Coonrod, SW cor. NE SW, Section 3-19-9. Phillips Petroleum Co. and Gled Oil Co. and others' No. 1 Hollingsworth, NW cor. SE SE, Section 20-19-9, is rigging up. C. O. Buckles and others' No. 1 Replogle, NW cor. NE SW, Section 10-17-8, is a machine. Bryan Petroleum Co.'s No. 3 Jackson, SE cor. NW SW, Section 8-16-11, is rigging up. C. G. Tibbens' No. 4 Carter, CSL SE NW, Section 18-14-9, is spudding. No. 4 Sneed, SW cor. NE NW, Section 18-14-9, is showing for 35 bbls. in sand 1,185-91 feet. C. G. Tibbens Oil & Gas Co. and others made location for No. 1 E. Wilson, NW cor. SE, Section 18-14-9. Dixie Drilling Co. and others' No. 1 Bruce, NW cor. SW NE SE, Section 10-17-9, is a dry hole at 2,965 feet. Tidal Oil Co.'s No. 2 Jim, NW cor., Section 31-15-8, has been completed for 400 bbls. in Wilcox sand 3,765-3,776 feet. C. G. Tibbens Oil & Gas Co.'s No. 3 Carter, CWL SE NW, Section 18-14-9, made 40 bbls. in sand 2,334-76 feet. No. 3 Sneed, SW cor. NE NW, Section 18-14-9, has been completed for 30 bbls. in sand 2,332-78 feet.

Grady County

Natural Gas Producing Co.'s No. 2 Ridley, SW cor. NW SW NE, Section

25-4-8w, is running 8-inch casing to top of sand at 1,850 feet.

Latimer County

Cities Service Gas Co. made location for No. 2 Hughes, C NW NW, Section 16-6-17.

Lincoln County

Meade Brothers staked location for No. 3 Meadville, C SW SW, Section 25-17-3.

Logan County

The Prairie Oil & Gas Co. and T. B. Slick's No. 1 Morgan, C NW NE, Section 33-16-1w, has been abandoned at 5,795 feet.

Noble County

The Prairie Oil & Gas Co. made location for No. 2 Waltermire, NW cor. SW NE, Section 33-21-1w.

Oklahoma County

Rajah, Inc.'s No. 1, Block 5, Lots 7 and 9, Reno Avenue Addition, NE cor. SW NW NW, Section 2-11-3w, Oklahoma City Pool, is a cellar. Tampa Oil Co. and Oklahoma Drilling Co.'s No. 1 Durham, Block 1, Lot 4, Armourdale Addition, CSL SW NW NW, Section 2-11-3w, is a rig. Phillips Petroleum Co. has the cellar dug for No. 1 Othenin, Block 7, Lots 15 and 16, Walnut Grove Addition, CNL SW NE NE, Section 3-11-3w. Dingeil Oil Co. is erecting the rig for No. 1 Hile, Block 4, Lot 10, Eckroat Addition, CSL NE NE NW, Section 10-11-3w. Anderson & Prichard and Phillips Petroleum Co. made location for No. 1 Wright, Block 21, Lot 27, Terrace Lawn Addition, CWL NE SW NE, Section 10-11-3w. Location has been made for No. 1 Ferguson Community, Block 2, Blevins Second Addition, SW cor. NW NE, Section 10-11-3w. British American Syndicate's No. 1 Chattam-Eckroat, Block 7, Lot 22, Adkroat Addition, NE cor. NW SE NW, Section 10-11-3w, is a cellar.

Wirt Franklin Petroleum Corp.'s No. 1 Page-Tucker, SW cor. SE, Section 35-12-3w, has been completed for 1,792 bbls. in eight hours from sand 6,265-6,513 feet. Anderson & Prichard's No. 3 Gibbons, SW cor. SE NE, Section 2-11-3w, made 3,414 bbls. in 16 hours from sand 6,150-6,493 feet. No. 1 Graham, SE cor. SW NE, Section 2-11-3w, has been completed for 3,807 bbls. in 16 hours, producing from sand 6,195-6,496 feet. J. C. Shaffer's No. 2 Vinta Park, CSL NW NW SW, Section 2-11-3w, made 885 bbls. in eight hours from sand 6,250-6,336 feet. Hall & Briscoe's No. 2 Holmes, CWL SW NE SE, Section 10-11-3w, has been completed for 19,011 bbls. in sand 6,290-6,433 feet. Indian Territory Illuminating Oil Co. and others' No. 2 E. Precure, NW cor. SE SE, Section 11-11-3w, made 7,941 bbls. from sand 6,475-99 feet. Cromwell-Franklin Oil Co.'s No. 34 Trosper Park, NW cor. SE SW, Section 12-11-3w, has been completed for 1,561 bbls. in eight hours from sand 6,221-73 feet. Anderson & Prichard's No. 1 Habegger, NW cor. SW NW, Section 14-11-3w, flowed 4,974 bbls. in 12 hours from sand 6,320-6,625 feet. Government Petroleum Co.'s No. 1 Government, NE cor. NW, Section 14-11-3w, made 440 bbls. in eight hours from sand 6,200-6,520 feet. Indian Territory Illuminating Oil Co. and others' No. 2 Huffman, NW cor. SW, Section 14-11-3w, has been completed for 1,319 bbls. in eight hours from sand 6,340-6,598 feet. No. 2 Spillman, NE cor. NW SE, Section 14-11-3w, had sand 6,170-6,460 feet and made 2,448 bbls. in eight hours. No. 2 Phelan Heights, SE cor. NE, Section 15-11-3w, has been completed in sand 6,350-6,610 feet for 523 bbls. in eight hours. The Prairie Oil & Gas Co. and T. B. Slick's No. 1 Dills, C SE NW, Section 17-13-3w, has been abandoned at 6,821 feet.

Payne County

Deep Rock Oil Corp. has the rig up for No. 1 Harris, NE cor. SW, Section 9-18-5.

Muskogee County

Cooper & Crow's No. 1 Prince, CSL SW SW, Section 3-16-16, is spudding. Moore & Crow's No. 1 Jones, C SE SW, Section 31-12-19, is spudding. Bement Oil Co.'s No. 4 Fowler, NE cor., Section 5-13-16, has been abandoned at 1,633 feet.

Okmulgee County

Bassinger and others moved a machine in for No. 5 Fox, C NE SE, Section 14-16-13. La Bean Drilling Co.'s No. 7 Bruner, C NE SW, Section 23-15-11, is rigging up to deepen from 1,875 feet. Babcock Brothers' No. 1 Johnson, CSL SE NW, Section 1-14-14, is spudding. Bassinger and others' No. 4 Fox, SW cor. NE SE, Section 14-16-13, has been abandoned at 2,053 feet.

Pittsburg County

M. J. Sullivan, trustee, moved a machine in for No. 2 Kohler, NW cor. NE NE, Section 15-7-18. Apex Oil Co.'s No. 2 Haskett, CSL SE NW, Section 18-7-13, is drilling at 1,455 feet.

Stephens County

H. O. Pope's No. 1 Brown, NE cor. NW, Section 31-4-7w, is rigging up. Slab Oil Co.'s No. 2 Malechi, SE cor. SW NE, Section 31-1-8w, an old well, is being deepened from 1,815 feet. Dixie Oil Co. and McMan Oil Co.'s No. 3 Pitts, SW cor. NE NW SE, Section 3-2s-8w, is drilling at 970 feet. Empire Oil & Refining Co.'s No. 2 Miller, CEL NE NE, Section 5-2s-8w, is drilling deeper at 1,710 feet. Barney Cockburn's No. 2 Funk, SW cor. SE, Section 19-1-8w, has been completed for 15 bbls. in sand 2,-262-64 feet. George Pace and others' No. 1 Ing, SW cor. NE, Section 20-1-8w, has been abandoned at 2,316 feet.

Tulsa County

McCune and others' No. 1-A Jefferson, CNL NE SE, Section 23-19-11, is rigging up. Murray and others' No. 2 McIntosh, CSL SW SE, Section 17-19-14, is a machine. O. H. Parkening and others' No. 1 Cowans, NW cor. SW SE SW, Section 7-19-14, has been completed for 4 bbls. in sand 1,280-87 feet, total depth 1,353 feet. Murray and others' No. 1 McIntosh, SW cor., Section 20-19-14, has been completed for 1,000,000 feet of gas in sand 1,332-40 feet.

Wagoner County

Western D. & E. Co.'s No. 6 Barnett, NE cor. SE NE, Section 34-18-17, is spudding..

Alvin Richards Heads Oklahoma's Statewide Proration Committee

Alvin Richards, of the Pure Oil Co., recently elected president of the Kansas-Oklahoma Division of the Mid-Continent Oil and Gas Association, has been prevailed upon by the directors to accept the chairmanship of the Oklahoma statewide proration committee, which is a committee of the Mid-Continent Oil and Gas Association created to function in an advisory capacity and as a fact finding body in aid of the proration movement.

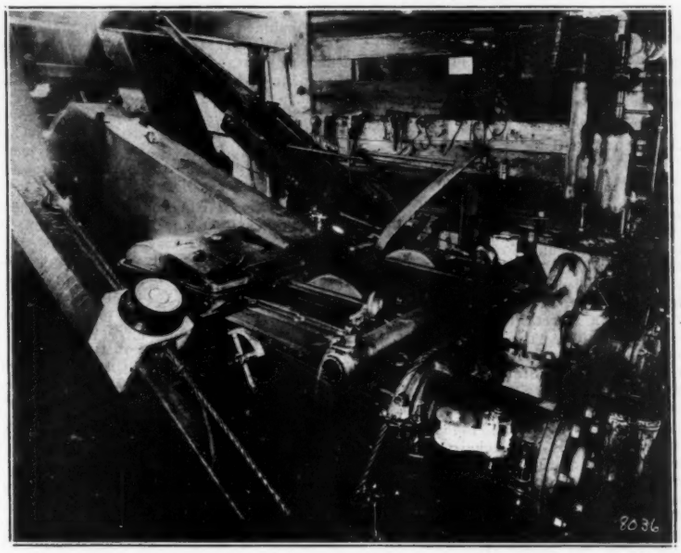
Mr. Richards succeeds C. C. Herndon of the Skelly Oil Co., who for the past year served also in the double capacity as president of the Kansas-Oklahoma division and chairman of the statewide proration committee. Mr. Herndon declined to serve for another year although he was urged by many oil operators to continue in that capacity in which it is universally conceded he exerted a great sustaining influence in the conservation movement.

The new statewide proration committee which has been appointed and constituted for the ensuing year consists of the following members: Alvin Richards, Pure Oil Co., chairman; Burdette Blue, Indian Territory Illuminating Oil Co., vice chairman; E. R. Filley, The Texas Company: Wirt Franklin, Wirt Franklin Petroleum Corp.; E. J. Nicklos, Continental Oil Co.; Joe S. Sidwell, Prairie Oil & Gas Co.; and R. M. Young, Carter Oil Co.

The proration legal committee, which will advise on legal matters and assist the attorney general in pending litigation, is composed of the following members: J. C. Denton, Mid-Continent Petroleum Corp., chairman; W. P. Z. German, Skelly Oil Co., vice chairman; William O. Beall, Sinclair Oil & Gas Co.; J. H. Brennan, Barnsdall Oil Co.; Frank Burford, Phillips Petroleum Co. and others; P. J. Carey, Cromwell-Franklin Co.; Joe T. Dickerson, Shell Petroleum Corp.; J. W. Finley, Empire Companies; W. C. Franklin, Tulsa; W. P. McGinnis, Indian Territory Illuminating Oil Co; George Otey, Wirt Franklin Petroleum Corp.; James A. Veasey, Carter Oil Co.; and Harry H. Smith, Mid-Continent Oil and Gas Association.

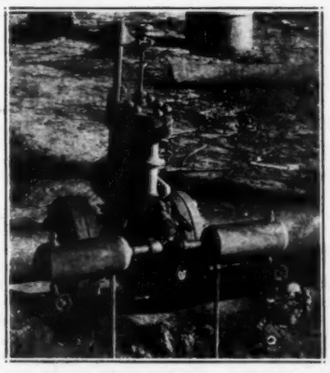
A.S.M.E. IS CONDUCTING TEST OF STEAM ROTARY DRILLING EQUIPMENT

One of the major projects of the Mid-Continent section of the American Society of Mechanical Engineers is the test of steam equipment for rotary drilled oil wells which is being conducted on the Indian Territory Illuminating Oil Co.'s No. 3 Lemmon. SW SW SE, Section 11-11-3w, Oklahoma City Field. The test is being conducted on the boilers and prime movers to determine the overall efficiency and power requirements for the various drilling operations. With these data available the oil industry will have a definite basis with which to work toward more economical drilling with steam power. Ultimately the American Society of Mechanical Engineers hopes to obtain similar information for all types of prime movers for this service.



Recording instruments on steam engine in rotary rig on Indian Territory Illuminating Oil Co.'s No. 3 Lemmon well in the Oklahoma City Pool where A.S.M.E. test is being conducted.

This test comes under the production committee, the general chairman of which is D. L. Trax, with R. M. Carr, chairman of the steam subcommittee. The work of organizing and conducting the test has been done by W. H. Carson, director of the School of Mechanical Engineering, University of Oklahoma, assisted by the faculty and studens of the Mechanical Engineering School. The engineers of the Indian Territory Illuminating Oil Co. and the Schoenfeld & Hunter Contracting Co. have co-operated to the fullest extent. The testing apparatus has been so arranged that it does not interfere with the regular routine of the crews in any of their operations.



Robinson orifice fitting on auxiliary steam lines at A.S.M.E. rotary equipment test, Oklahoma City.

Apparatus Used

The apparatus used is as follows: A master water meter for metering all water going to the location; a gas meter; a water meter in the feed water line; a steam flow meter to the auxiliary equipment, such as feed water pumps and generator turbine; two steam flow meters in the line to the drilling engine; one steam flow meter in the line to the mud pumps; recording steam pressure gauges; separating and throttling calorimeters; Orsat apparatus; four continuous diagram steam engine indicators; two noncontinuous diagram steam indicators; four-stroke counters; one tachometer; stop watches, and other miscellaneous equipment. All of the equipment for measuring the flow of steam, water, gas, as well as the tachometer and pressure gauges, are of the recording type. The indicators and steam calorimeters are the only equipment that will require personal attention when operating.

It will be noted that two steam flow meters are used in the line to the drilling engine. These meters are placed in series, one of them having a 24-hour clock, the second a two-hour clock. The second meter is used during the operation of pulling the drill pipe out of the hole. During this time the steam demand for the drilling engine varies from zero to a maximum over a short interval of time. When this is recorded on the 24-hour clock the entire operation will show up as a complete blur of ink, but the record on the chart of the two-hour clock will be spread out so that definite information can be determined from it.

The manufacturers of the various types of apparatus that are on this test have been liberal in loaning equipment.

Indicator Cards

Indicator cards are being taken on the drilling engine and the mud pumps. This includes both the steam and mud cylinders on the pump. Cards are also taken when raising the drill pipe out of the hole. These are taken with a continuous diagram type indicator. A log of the well is being kept and the power requirements to drill through the various formations will be determined. Another interesting comparison will be the horsepower required to lift the drill pipe and bit through the various formations as compared with the theoretical horsepower necessary to lift a weight equivalent to the drill pipe and bit. The crookedness of the hole will also have a bearing on the horsepower requirement, which will be plotted on the depth scale as well as the formations encountered.

Some very interesting results are being obtained from the mud pumps, since simultaneous readings are being taken both on the steam and mud end. To our

knowledge this is the first time that cards have been taken on the mud end when the pump was actually in operation in the field. With the indicating and recording pressure gauge connected to the mud line on the derrick floor, comparative pressure drops are being determined. An attempt is also being made to measure the quantity of fluid entering the pump. This is being worked out. The principle used is the Pitot tube method, and the preliminary results are checking satisfactorily with what might be expected of a pump with a given speed and stroke.

PRODUCTION CHAPTER FORMED AT TAFT, CALIF.

LOS ANGELES, Calif., Nov. 1.—At a meeting at Taft called by E. P. Campbell, vice chairman of the Pacific Coast section of the division of production of the American Petroleum Institute for the purpose of organizing the San Joaquin Valley chapter, more than 100 west side oil men perfected the organization. This is the first chapter of the division formed on the coast and Taft has been selected as headquarters. Subchapters may be formed later at Bakersfield and Coalinga.

R. R. Shinn, superintendent of the General Petroleum Corp. was elected chairman and C. L. Moore of the C. C. M. O. was selected vice chairman. Mr. Shinn and Mr. Moore were empowered to appoint a secretary-treasurer and advisory committee, the personnel of the committee to be selected next week. M. W. Morris of the Standard Oil Co. was selected as secretary-treasurer.

Norval White, director of the Pacific Coast section, American Petroleum Institute, and A. H. Bell, chairman of the Pacific Coast section, were present from Los Angeles. Mr. White spoke on the functions and activities of the American Petroleum Institute, on the Pacific Coast, while Mr. Bell told of the purpose of chapters of the organization.

W. F. Barbat of the Standard Oil Co. gave an interesting talk on "The Relationship of Paleontology to Oil Field Development," showing how the study of fossils from cores of Kettleman Hills wells had enabled them to predict the depth necessary to strike the oil sand. By correlation of fauna between fields it has frequently been possible to save money to wildcatters, advising them where to find formations productive in other fields. He also explained the relation of the Mulinia bed to the Temblor formation.

Short talks were given by J. J. Wilt of the Standard Oil Co. at Bakersfield, P. T. Martin of The Texas Company, R. R. Shinn of the General Petroleum Corp., H. P. Larkin of the Union Oil Co., R. C. Patterson of the United States Geological Survey and Roy M. Smith of the C. C. M. O.

The next meeting of the San Joaquin Valley chapter will be held December 4. At that time J. B. Stevens will present a paper on "Edgewater Encroachment in the McKittrick Field," while R. E. Allen, assistant to the oil umpire of the State, has been requested to send a paper on "The California Proration Program." Another paper, on "Slow Motion Pumping of Productive Wells," is to be prepared by a speaker to be selected.

UPHOLDS CALIFORNIA LAW

LOS ANGELES, Calif., Nov. 3.—Superior Court Judge S. L. Strother has upheld the constitutionality of the state gas conservation act in the suit brought against Kettleman Hills operators to restrain waste of natural gas.

Hearing of the application of the State for an injunction has been set for December 2. In the meanwhile, it will provide operators time in which to work out a unit plan of production.

Superior Court Judge Hazlett some months ago rendered a similar decision upholding the constitutionality of the act in the suit brought against Santa Fe Springs operators.

FRENCH OUTLET FOR OIL FROM IRAQ MAY ADD TO OVERPRODUCTION PERIL

NEW YORK, Nov. 3.—Notwithstanding strenuous efforts by American, Dutch, and British interests to avoid further augmenting the world's already overdeveloped supply of petroleum, indications point to early development of extensive production in Iraq, according to cables from abroad this week.

A definite decision has been reached, it is reported, on construction of the pipe line from Iraq to the Mediterranean, with difficulties between French and British as to the terminal of the line having been adjusted by a decision to branch the line and run oil both to Haifa, a British controlled port in Palestine, and to Tripoli, under nominal French control.

Combined efforts on the part of French interests in Iraq Petroleum Co., the Iraq Government, and British Oil Development Co., a new entry into the situation, threatened to upset the conservation plans of American, British, and Dutch companies interested in Iraq Petroleum Co. and force immediate construction of the pipe line and extensive production of crude.

The French Government in its desire for speed in Iraq development is actuated by the desire to secure an adequate supply of crude to supply its extensive refining industry, now being built up. The Iraq Government is pressing for early development in an effort to hasten the time when oil royalties will begin accruing. The deciding factor in the situation, however, appears to be the British Oil Development Company. This syndicate, originally exclusively British, has now assumed an international aspect through the admission of German, Italian, and Swiss interests.

The new company is seeking to duplicate for itself the concessions granted Iraq Petroleum Co. and has promised, if granted such concessions, immediate exploitation of the field and construction of a pipe line to run the crude to the Mediterranean for transshipment to world markets. The new company, furthermore, is understood to have secured the support of the Iraq Government, although the Government thus far has been unable to grant the concessions asked because of the terms of its prior concessions to Iraq Petroleum Co.

An interesting summary of the Iraq situation is contained in a London cable to the "Wall Street Journal" this week. This cabled report follows:

"In well-informed quarters in London the reports from Paris that the route of the oil pipe line from Iraq has been definitely fixed to debouch at the Mediterranean port of Tripoli, in the French mandate of Syria, is regarded as premature and incorrect. It is understood Iraq Petroleum Co. is willing to build a pipe line branching to both Tripoli and Haifa, the latter a British-controlled Mediterranean outlet, but this is subject to agreements with governments of the territories concerned, which have not yet been completed.

"Important negotiations with regard to the future development of the Iraq petroleum fields were being conducted this summer and are still proceeding. The Iraq Government is pressing the present concessionaires, Iraq Petroleum Co., to make an early decision on the selection of its plots and on the route to be followed by the pipe line.

"The Iraq Petroleum Co. consists of American, French, British and Dutch groups, each holding a 23¾ per cent interest of its £3,000,000 capital, and the Armenian financier, Sarkis Gulbenkian, an original concessionaire, the balance of 5 per cent. By the terms of the concession the company is to select 24 rectangular plots of eight square miles each after carrying out prospecting and trial borings. After the company has chosen its plots any remaining oil-bearing land is to be thrown open to public auction, the company taking the proceeds and being entitled to tender itself for additional plots, the Iraq Government taking revenue in royalties.

"Up to the end of 1929 the company had drilled a total of 76,175 feet, more than double the minimum imposed by the 1925 concession. Drilling has been carried out on structures many miles apart which was necessitated by the company's obligation to select its plots within a specified period, though this method is unsound from a production point of view. By the end of 1929 large quantities of oil had been located in 11 wells, chiefly on the Baba Gurgur structure north of Kirkuk. Other areas are reported as promising if difficulties of high pressure, moving formation, etc., can be overcome.

"At the same time Anglo-Persian Oil Co. has done a certain amount of development work on the Naft Khana field through its subsidiary, Khanaqin Oil Co., which operates in Iraq. Any further work has, however, been postponed until a decision has been reached by Iraq Petroleum Co. as to the route for a pipe line from Iraq to the Mediterranean.

"In the existing state of the oil industry only one partner of the Iraq Petroleum Co., the French, is anxious to reach production stage in the near future. The French, who control no oil supplies of their own, are eager to remedy this deficiency and are, therefore, pressing for a decision both on the delimitation of the I. P. C. concession and on the route to be taken by the pipe line, which they naturally would prefer to pass through the French mandated territory of Syria to debouch at Tripoli or Alexandretta.

"The British, Dutch and American groups, on the other hand, are not anxious to get into production at present. Further, the British interests would prefer the pipe line to pass through Trans-Jordania and Palestine and debouch at Haifa. Meanwhile the I. P. C. has requested an extension of the period fixed under the 1925 convention for selection of plots, and in addition, it is understood, has asked for modification of the clause permitting auctioning of plots outside the area ultimately chosen by the company. It is feared that if auctioning were allowed some competing group might come on the scene and take up plots adjacent to the I. P. C.'s and draw off their supplies of oil.

"At this juncture the whole situation has been brought to a head by action of a syndicate known as the British Oil Development Co. (B. O. D.). This syndicate, originally British, but now international, headed by Admiral Lord Wester Wemyss, is the only important competing group in the field. In addition to the backing of several leading British industrialists, this group has recently invited an Italian group, Agenziz Generale Italiana di Petroliol (A. G. I. P.) to join them.

"These two groups have further admitted a German group, which is reputed to have the backing of Krupps, German United Steel Co., Gute Hoffnugshuette and Otto Wolff. They are also admitting a Swiss-French group composed of the Swiss Bankverein, Paul Girod and Jules Bloch. The capital of this syndicate will be subscribed as to 75 per cent jointly by the British and Italian groups, and the remaining 25 per cent by the German and Swiss-French groups in equal proportions.

"It is understood the B. O. D. wants the 'open door' in Iraq. It has got the ear of King Feisal of Iraq and has pressed him not to allow any further extension of time to Iraq Petroleum Co. in choosing its plots. Further, it asks to be allotted 24 plots similar to those of the I. P. C. and offers to put up money to go ahead with development of the oil fields and construction of a pipe line at once if granted this concession. This is naturally an attractive proposition to King Feisal, who wants to see the oil fields developed as quickly as possible in order that his revenues may benefit from royalties, but it is contrary to the terms of the original concession to the I. P. C.

"At the same time the industrialists behind the B. O. D. group would benefit from orders for plant and machinery. This work would be distributed as to 50 per cent between the British and Italians, 38 per cent to the Germans and 12 per cent to the French-Swiss group. As an alternative to competition the B. O. D. has, it is understood, offered to come in with Iraq Petroleum Co. and pool resources, but this offer has been declined.

"Surveys of possible routes for the pipe line have already been made by the I. P. C. and a survey for an adjacent railway has now begun under a grant from the British Government. The shortest route for the pipe line would be to Basra, at the head of the Persian Gulf, but this is ruled out by the expense of the dues upon oil-tankers passing through Suez Canal.

"Of routes to the Mediterranean, that through Syria would be about 100 miles shorter than that via Trans-Jordania and Palestine and consequently would be cheaper, though in either cas the cost is estimated to exceed $50,000,000. The Palestine route is favored both by the British and by King Feisal. The latter hopes to get a railroad built by the oil companies adjacent to the pipe line.

"On the Haifa route this road would run for the first 450 miles through Iraq, thence for 250 miles through his brother's territory of Trans-Jordania, and end in Palestine, a mandated territory of his ally, Britain. Such a railroad would give Iraq a large share in profits of goods in transit from America and Europe to Persia. The railroad would also be a useful strategical acquisition for the British, being on the direct land route to India. On the Syrian pipe line route there would not be the same need for a railroad, as after entering the desert the pipe line would not be more than 100 miles from existing roads at any point. As far as security goes there is not much to choose between the routes.

"If cost were the only factor it is probable the Syrian route would win, but in view of the political considerations involved its choice is less certain. The position of King Feisal is a difficult one. Iraq has been promised entry into the League of Nations in 1932 provided the necessary two-thirds vote of the Assembly is forthcoming to support its candidature.

"If France does not get its way over the pipe line Iraq's entry to the League may meet with opposition from France and its allies in the Assembly. A possible solution is for a branch pipe line to take off from the main line to Haifa at a point some 250 miles from the coast to debouch in French Syria, through which France's share of the Iraq oil might be led. This solution would add considerably to the cost of the pipe line to all the groups making up Iraq Petroleum Co."

DOMESTIC EXPORTS OF PETROLEUM AND REFINED PRODUCTS

		Month of September		Nine months ended September	
		1929	1930	1929	1930
Crude petroleum	Bbls.	1,988,120	1,960,887	18,856,909	18,433,605
Crude petroleum	$	2,963,388	2,754,872	26,462,286	25,489,851
Total refined petroleum	Bbls.	7,876,698	8,262,235	92,221,207	95,425,379
Total refined petroleum	$	33,498,550	29,788,492	366,484,943	351,245,957
Gasoline, naphtha and other light products	Bbls.	4,241,355	3,912,452	44,129,996	49,290,779
Gasoline, naphtha and other light products	$	18,850,848	16,483,969	197,480,066	203,722,115
Oils, illuminating	Bbls.	1,100,953	1,349,070	14,604,715	12,999,986
Oils, illuminating	$	5,625,409	4,607,394	62,640,034	50,051,777
Gas and fuel	Bbls.	1,844,419	2,323,703	25,229,077	25,382,597
Gas and fuel	$	1,856,623	2,228,671	26,276,799	26,040,231
Lubricating	Bbls.	677,187	667,066	8,116,458	7,631,500
Lubricating	$	7,581,266	6,334,857	78,096,936	70,748,618
Other refined petroleum	Bbls.	12,784	9,944	140,961	120,517
Other refined petroleum	$	184,404	133,601	1,991,108	1,683,166
Paraffin wax	Lbs.	21,987,294	30,170,115	227,122,314	210,182,226
Paraffin wax	$	1,217,386	1,047,796	10,383,174	7,853,048

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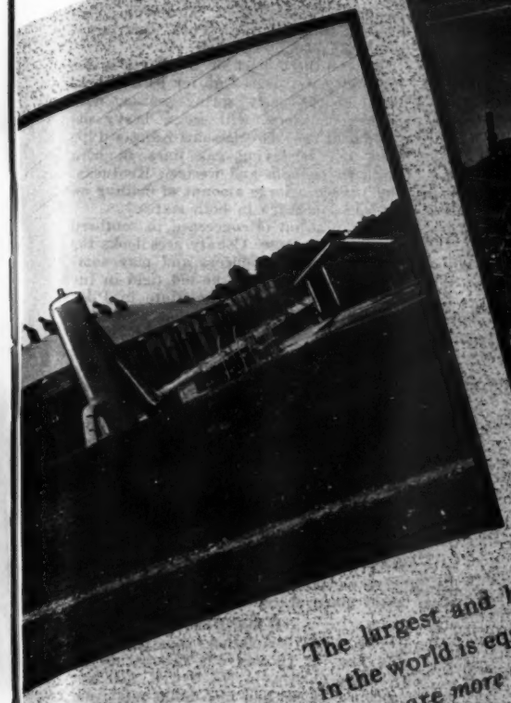

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Central West Completions Increase

Hardin County Leads in New Work Under Way. Several Small Producers in Illinois. One Completion in Indiana

By George A. Whitney
Staff Correspondent, Central West Fields

FINDLAY, Ohio, Nov. 3.—All divisions of the Central West Field are maintaining their usual development work, with a slight increase over the previous week in new completions. In the old Lima Field Hardin County leads in completions and new work under way, but the bulk of the wells are gas. In Hardin County there were five completions, four gas and one oil. Berty Sheldon and others' test on the Oscar Schwemmer farm, Section 31, Blanchard Township, is a light gas well in the Trenton at a total depth of 1,375 feet. In Cessna Township, the Wiser Oil Co.'s No. 3 Grant Geiger farm, Section 13, produced an initial of 25 bbls. at a depth of 1,330 feet. In Pleasants Township, Barnaby and others drilled in Nos. 1 and 2 Jacob Kurt farm, Section 7, both being fair gas wells from 1,380 and 1,344 feet. Bert Sheldon's No. 1 on the Fred Kurt farm, Section 7, east of Blanchard Station, is a fair gas well, showing a volume of 396,000 feet. Barnaby and others are starting Nos. 3 and 4 Jacob Kurt, Section 7. Penn Oil & Gas Co. is drilling No. 1 L. A. C. Whitmore farm, Section 5, and No. 1 Jonathan Oats farm, Section 8, same township.

Galliger and others are putting down a test on the Mollie Meeks farm, Section 20, Richland Township, Wyandot County.

O'Neil and others' test on the Mrs. Cameron A. Lyon farm, Section 1, Jackson Township, Seneca County, pumped 12 bbls. in 24 hours. S. S. Shaw has abandoned Nos. 1, 2, 3 and 4 on his own farm, Section 6, same township.

W. C. Richards and others are drilling on the H. Bloom farm, Section 25, Washington Township, Sandusky County.

Hoyt Oil & Gas Co. abandoned No. 1 H. A. Ackuermann farm, Section 13. Freedom Township, Wood County.

CENTRAL OHIO

Twenty-one completions were reported from the Central Ohio Field with eight producers with an initial production of 199 bbls., eight dry holes and five gas wells, while there were 14 locations made and 23 wells started spudding, a total in new work of 37, which indicates that activity still is being maintained.

In Ashland County, Lake Township, Robinson and others' No. 4 C. I. Sellers farm, Section 9, pumped 2 bbls. from the Berea sand from 613-59 feet. Wile and others are drilling No. 3 Henry Mosher farm, Section 22, same township. D'Lano and others are drilling No. 4 Edward Gardner farm, Section 29, Perry Township, and Clifford & Kolb are drilling No. 6 Ira Myers, Section 20. In Milton Township, Mill and others found the Berea sand from 509-57 feet, total depth 744 feet, and a dry hole. Trout and others are drilling No. 2 Mabel V. Heifner farm, Section 12, Miflin Township.

In Medina County, Chatham Township, Edson and others' No. 5 on the Marcus A. Frank farm, Lot 20, pumped 6 bbls. initial from 444-69 feet, and No. 6, same farm, is due for completion.

In Lorain County, Ohio Fuel Gas Co. has a gas well in No. 1-5,311 on the West View Property Co.'s property, Lot 60, Columbia Township.

In Wayne County, Congress Township, Harmon & George are drilling a second test on the Lewis Howman, Section 32. Same parties are drilling No. 2 James Hagerman, Section 20, Chester Township, and Hulse & Kundtz are drilling No. 2 W. A. Firestone, Section 19, same township.

In Knox County, Jefferson Township, Reno Oil & Gas Co. is drilling No. 2 S. E. Day farm, Section 11. Upham Gas Co. found a gas well on the Jess White farm, Section 23, Union Township, same county, from 2,922-42 feet. Same company is drilling on the J. J. Smith, Section 11, Monroe Township.

Coshocton County

In Coshocton County, Pike Township, William Stevens is drilling No. 2 Henry Noland, Section 12.

In Summitt County, Franklin Township, Lyons and others are drilling No. 1 Seibert-McKnight, Section 25. Eagon and others are drilling No. 1 Jeremiah Brancher, Section 31, Greene Township. East Ohio Gas Co. has staked locations for Henry Hausman, Section 17, and No. 1 L. S. Stark, Section 31, same township.

In Licking County, Fallsburg Township, Emerald Petroleum Co.'s No. 2 George Babcock, Section 13, was dry from 2,923-73 feet. Same company's No. 1 Allen Johnson, same section, has a showing of oil from 2,946-3,002 feet. Norpell and others' No. 2 C. A. Weakley, same section, was dry from 784-88 feet. I. C. Robinson is drilling No. 4 Dora Myers, Section 14, and the Hope Construction & Refining Co. made a location for No. 2 John W. Mattin farm, Section 13. In Newark Township, Ohio Fuel Gas Co.'s No. 1-5,275 Guy Watkins, Section 4, that had a light gas showing was dry in the Clinton from 2,359-83 feet, the gas showing being at a depth of 1,250 feet.

In Muskingum County, Newton Township, the Preston Oil Co.'s No. 1-1,425 B. P. Stokely, Section 34, is reported with an initial of 60 bbls. at 3,499 feet. McLaughlin Brothers' No. 6 Charles E. Vensel, Section 13, Monroe Township, produced 1 bbl. from the pay sand at from 1,005-35 feet. Ohio Fuel Gas Co. has a light gas well in No. 1-5,300 A. S. Leland farm, Section 14, Brush Creek Township.

In Athens County, Berne Township, Carpenter & Glazier's No. 13 H. D. and C. C. Curtiss, fractional Section 33, was dry at 90 feet, and No. 14, same farm. was dry from 153-71 feet. Ohio Fuel Gas Co. has a gas well in No. 22-5,345 C. E. Woode, Section 25, Carthage Township, at 1,230 feet. Shade River Oil & Gas Co. is drilling No. 12 F. W. Chapman, Section 26, same township. In Troy Township, the Bowser Oil & Gas Co.'s No. 1 F. N. Ahrendt, Section 36, filled up with salt water from 1,100-33 feet, and given up as a failure. In York Township, Noah Andrews is drilling No. 1 William Powell, Section 23. Ohio Fuel Gas Co. has a gas well in No. 96-5,260 Sunday Creek Coal lands, Section 24, same township. In Trimble Township, Kachelmacher estate struck a duster at 3,993 feet on the Charles Wilson farm, Section 4. Nuzum and others are drilling No. 4 Elmer Halbert, fractional Section 3, Cannan Township.

In Tuscarawas County, Washington Township, Capital Drilling Co.'s No. 4 Lewis Little, Section 32, produced 50 bbls. initial at 3,666-69 feet.

In Stark County, Jackson Township, East Ohio Gas Co. made locations for No. 2 J. M. Blake, Section 36, and No. 1 T. K. Harris, Section 34.

In Guernsey County, East Ohio Gas Co.'s No. 3 J. and R. Gadd, Section 1, Wheeling Township, reported with an initial of 60 bbls. at 3,514 feet. George Jewell and others' No. 1 S. L. Beal heirs, Section 12, produced 10 bbls. initial at 3,634 feet. In Westland Township, Ernest Walters and others' No. 1 Charles Messer, Section 20, pumped 10 bbls. initial at 3,536 feet.

INDIANA

Only one completion was reported from any part of Indiana, the Siosi Oil Corp.'s No. 3 on the Lennie Thomas farm, Section 32, Prairie Creek Township, Vigo County, in the Siosi Pool, the initial production being 20 bbls.

The southern part of the State is being pretty well leased up for both oil and gas and the early spring season, with better conditions, will see a heavy development, as the Missouri-Kansas Pipe Line Co. is laying gas lines in both southern Indiana and western Kentucky, and will do a large amount of drilling on its leased acreage in both states.

So far as oil is concerned in southern Indiana, the Perry County area looks the best for small producers and may some day connect up with the old field in the southwestern part of the State in Pike, Gibson, Daviess and other counties, known as the Princeton Field, where large oil and gas wells have been found in the past, Pike and Gibson showing the large wells.

The recent well drilled near Ashley in the southern part of Steuben County, southwest of Angola, should encourage additional test work, as the well is said to have produced 20 bbls. a day at its best and is far in advance of production, being the most northeasterly county in Indiana, just south of Branch County in Michigan, which is known to have a structure covering quite a large area, and was known more than 30 years ago, but never given a test.

ILLINOIS

The best completion reported from any area of Illinois was brought in by the Ohio Oil Co. in No. 3 well, 559 feet from the south line and 1,260 feet from the east line of the A. J. Shondy farm, NW, Section 34, Sugar Loaf Township, St. Clair County, which showed an initial production of 50 bbls. from 583-633 feet. Lloyd Bryant and others drilled a test in the southwest corner of the Jess Bryant farm, NE, Section 4, Centralia Township, Marion County, which produced 10 bbls. the first 24 hours at from 1,647-59 feet.

T. J. Collins and others' test on the Peter Pauiler heirs farm, Section 16, Red Bird Township, Randolph County, drilled in a duster from 520-620 feet.

Michigan-Illinois Oil Co.'s second test, 870 feet from the north line and 280 feet from the west line of the J. A. Clark farm, NE, Section 20, Lamoine Township, McDonough County, pumped 1 bbl. in 24 hours at 500 feet.

In the Allendale Field, Wabash Township, Wabash County, J. D. Toomey and others' No. 12 well, 850 feet from the north line and 200 feet from the west line of the Harrison Buchannan farm. NE, Section 10, pumped 10 bbls. from 1,498-1,519 feet. Robinson Oil Co. drilled a dry hole, 500 feet from the south line and 200 feet from the east line of the William Schaffer, SE, Section 15, same township, at 1,575 feet. Cisil Heirs Oil Co.'s No. 1 Cisil heirs, SW, Section 1, was abandoned.

In Crawford Countq, Montgomery Township, W. C. McBride, Inc., drilled a gas well 600 feet from the north and west lines of the Jim Oldham farm, NW, Section 2, and is starting No. 1 on the John Magill farm, Section 3, same township. Craig, Lowrie and others are drilling No. 13 Randolph Weger, Section 15, Honey Creek Township. O. R. Oil & Gas Co. is drilling No. 1 O. H. Smith, Section 35, Prairie Township.

CENTRAL PORTION OF KENTUCKY LIKELY TO GET REAL DEVELOPMENT

By George A. Whitney
Staff Correspondent, Kentucky Fields

OWENSBORO, Ky., Nov. 3.—The central portion of Kentucky is in for a real development, brought about by the completion of the good well by Norris and Davis on the Lewis McKinnie farm, about 6 miles east of Horse Cave, in what is now known as the Le Grande Pool, in the southeastern part of Hart County. This well found its oil at 659 feet, and for the first 10 days produced close around 8,000 bbls. of crude, making it the outstanding feature of the State for the current year. Many drilling outfits are moving in. Since the first completion two additional wells have been brought in. Norris & Davis' No. 1 McKinnie farm, same area, was reported good for 500 bbls. initial and Warder and Norris' No. 1 Abe Garvin farm, was reported around 300 bbls.

Most of the southeastern part of Hart County from beyond the McKinnie well east 3 miles and up to the edge of Horse Cave on the west there is a strip of land with a fossiliferous covering called Barren Rock. This strip is very pronounced extending 25 miles or more north and south of the present oil production. The topography of the McKinnie and Abraham Garvin farms where good wells were brought in and for several miles around shows this same top structure and from test wells so far drilled gives great encouragement to operators. One feature of this field is that most acreage has been leased by bonafide companies who mean to develop and not hold the land for speculation. The field is also noted for its gas wells, and more than 20 in the field now are producing on an estimate of 50,000,000 feet daily. This gas to a large extent is being handled by the Missouri-Kansas Pipe Line Co., and going into Bowling Green, Franklin and other south central and southwestern Kentucky towns.

A survey of the new field in Hart County increases the prospects for many more new pools in surrounding counties, Edmonson and Grayson Counties to the west; Green, Marion and Taylor to the east; and Larue and Hardin Counties to the north. The latter county is known to have one of the largest structures in any section of Kentucky, which extends further north into Meade County. Metcalf County, adjoining, is a gas area.

While less than a month old the Le Grande Field has made remarkable strides in new work starting. The new wells reported drilling or ready to start in Hart County, are:

Norris & Davis' No. 1 Richardson and No. 1 Harry Perkins, also No. 1 Hatcher. Norris Brothers' No. 1 J. A. Pedigo, 1 mile northwest of the McKinnie gusher. Warder & Norris' No. 2 Abraham Garvin farm.

Ball and others are drilling No. 1 Lee Smith, 2 miles from the McKinnie well. L. C. Young is drilling No. 1 John King, 3 miles west of McKinnie.

Wilson and others are drilling No. 1

(Continued on Page 155)

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Somerset County Test Is Abandoned

Quemahoning Test Carried to 3,320 Feet Without Results. Perry County Has 2,000,000 Gasser. Drought Handicaps

By Staff Correspondent

PITTSBURGH, Pa., Nov. 3.—Among the operations in the Eastern Fields the American Natural Gas Co., abandoned further drilling in its well on the Royal Rhodes farm, Quemahoning township, Somerset County. This well was drilled north and to the west of the O. S. Miller farm on which the same company brought in a fair gas well. After a depth of 3,320 feet was reached with no result, the well was pulled. On the Emert farm, about 3 miles south and west of the discovery well, this company has reached about 2,500 feet with no showing. The gas was reached on the Miller farm at 2,550 feet. No additional locations have been made at the present.

The best producer was in the southwest quarter of Section 15, Reading township, Perry county, where the Mideast Co., completed a test on the Ed Brown farm. It was drilled to a depth of 3,146 feet and in the Clinton sand and is rated good for 2,000,000 feet. In Berne township, Athens county, there is some very shallow drilling which has produced paying wells, like the test on the C. B. Goddard farm, 1 mile north of Amesville, completed by Harry J. Smith and others in the Stray sand at 85 feet, which is showing for 2 bbls. a day. In the same section, the same operator completed his No. 7 on the Charles C. Curtis farm in the stray sand at 75 ft. and it is also a 2-bbl. pumper.

The Columbia Gas Co. completed a test on the Sunday Creek Coal Co.'s property in the SE, Section 23, York Township, Athens County, in the Clinton sand at 3,340 feet and it is a very light gasser. In Ashland County, the Great Lakes Oil Co. drilled No. 4 on the C. I. Sellers farm, Section 9, Lake Township, in the Berea sand at 671 feet and it is showing for a 2-bbl. pumper.

Jefferson County

In Jefferson County, the Boyce Drilling Co. and others completed No. 4 on the Kate E. Wilt farm, NE, Section 23, Island Creek Township, in the Berea sand at 1,400 feet, and it made 10 bbls. the first day after shot. In the same township, but the SW, Section 17, Richard Graham and others completed a test on the Sarah Cathers farm in the Berea at 1,200 feet which produced 5 bbls. after shot. In the SE, Section 28, Steubenville Township, I. H. Beren cleaned out an old well on the Miller heirs' farm abandoned several years ago, which had been drilled in the Berea sand at 1,600 feet. The well is now producing.

In Muskingum County, the Wittmer Oil & Gas Properties drilled a test on the Frank Border farm in the NW, Section 15, Perry Township, in the Clinton sand at 3,932 feet and it is a gasser good for 300,000 feet. In Vinton County, the Raccoon Oil & Gas Co. completed No. 6 on the John and Louisa Stanley farm near Bollins Mills, Section 3, Knox Township. It was drilled in the Grit at a depth of 1,095 feet, and produced 2 bbls. the first day natural, which after shot increased to 6 bbls. the second 24 hours.

In Washington County, Elmer Wickens completed his No. 10 on the Henry Wickens farm, Section 19, Aurelius Township, in the Macksburg 500-foot sand at 834 feet, good for a barrel a day natural which was doubled by shot. In Section 33, Independence Township, Herlan Schramm and others completed No. 16 on the Ephram Commons farm in the Mitchell sand at 360 feet and it is a duster. At Warner, Lot 40, Salem Township, R. O. Wooster and others completed a test on the A. C. Becker farm in the Buell Run sand at 294 feet. After shot it produced 2 bbls. the first 24 hours.

Drilling in Ohio

In Washington township, Holmes County, the Ohio Fuel Gas Co. is down to 2,750 feet in a test on the Leroy Haudenschild farm, and in Hardy township, the East Ohio Gas Co. have a rig ready on the J. F. Dyers farm. In Knox County, The Preston Oil Co. has reached 1,000 feet in a second test on the A. J. Beatty farm, Section 2, Jackson Township, and has a rig up for a second test on the W. Scott Beatty farm in the same section. Both wells will go to the Clinton sand. In Section 11, Jefferson Township, the Reno Oil Co. has rigged up for a No. 3 on the S. S. Day farm.

In Wheeling Township, Guernsey County, there is still considerable drilling in the Niagara Lime Pool, although most of them are on proven leases. The Ohio Fuel Gas Co. in Section 11, has reached 700 feet in No. 3 on the C. C. Wilson farm, and has a location ready for No. 4, and is down to 1,200 feet in No. 4 on the A. E. Robinson farm, and in Section 9, has a location for No. 4 on the Loren C. Stocker farm. The Ohio Producing and Refining Co. has abandoned its location for No. 7 on the E. C. and Vera A. Quillan farm in section 11, and in Section 1 has cleared a location for Nos. 3 and 4 on the C. A. Quillan farm. In Section 10, the Kemrow Co. has rigged up for No. 3 on the J. W. Fauler farm and have a location for No. 4. In Section 19, James A. Sager and others have reached 1,000 feet in a second test on the James A. Sager farm. The Ohio Producing and Refining Co. has a fishing job on the James Gadd farm, Monroe Township, Section 5, at a depth of 3,500 feet, which is close to the sand.

Licking County

In Licking County, Fallsburg Township, I. C. Robinson and others have started drilling on the Dora Myers farm in Section 1. In Section 13, of the same township, Ralph Norpell and others have spudded in and are down to 300 feet in their No. 3 on the William D. Booth farm, and in the same section, Beabout and others have reached 2,500 feet on the Amos Van Winkle farm. In Section 2, the Hope Construction and Refining Co. have rigged up on the John Martin farm. In Eden Township, Section 9, the Ralph Brothers are down to 2,500 feet on the T. B. Coville farm. In Hanover Township, the Hope Construction and Refining Co. is drilling No. 3 on the Minor-O'Bannon farm, Section 14, at 1,700 feet.

In Tuscarawas County, the Gordon Oil Co. No. 3 and others has laid out an extensive program with No. 4 on the T. B. Shearer farm, Section 34, Washington Township, drilling at 2,900 feet, a rig up on the Ralph Hoffman farm, Section 35 same township, for their No. 4, and locations for their Nos. 5 and 6 on the same farm. In Section 32, the same company has prepared locations for Nos. 2 and 3 on the Martha Carrol farm. In Coshocton County, there are few wells drilling. In Section 12, Pike Township, the Stephenson Brothers have reached 2,100 feet in their second test on the M. L. Noland farm, and in Perry Township, the Preston Oil Co. is down to 3,000 feet in a second test on the Elmer Clark farm, Section 14.

Vinton County

In Vinton County, the Co-operative Oil Co. is drilling a second well on the Robert Nelson farm, Section 4, Knox Township. In Morgan County, the Ohio Fuel Supply Co. is drilling on the C. O. Thomas farm, Section 17, Marion Township, and in Section 24 of the same township, Charles Woodyard and others have started drilling No. 9 on the Charles Woodyard farm. In Noble County, Marion Harper and others have started drilling a test on the Marion Harper farm, Section 32, Enoch Township, and in the same township, Way Wickens and others have rigged up for a second test on the J. M. Rowlands farm. In Section 12, Jackson Township, Frank Worral and others have reached 300 feet on the J. B. Hutchinson farm. In Meigs County, there is but one well reported drilling and that is No. 6 of H. B. Goddard and others on the J. E. Stobart farm in Sutton township, and which has reached 300 feet.

In Jefferson County, in the shallow drilling in Island Creek Township, William Graham & Co. has started drilling on the G. W. Green farm, Section 22, and a partnership has started a test on the D. S. Carr farm in Section 9. In Knox Township, Sapp Brothers have reached 500 feet in a test on the H. L. Swickard farm, and in Springfield Township, Brown, Vorhess and others are drilling at 1,100 feet on the Dorrance Heirs farm. In Belmont County, W. C. McBride, Inc., may drill No. 4 on the Dement and Howell farm, Section 1, Somerset township, deeper from the Keener, which was dry, to the Grit.

SOUTHWEST PENNSYLVANIA

Southwest Pennsylvania is suffering from an unbroken drought and drilling is practically at a standstill. There were three wells completed, one of which was dry. In Beaver County, J. D. Reed completed a test on the A. Hughes farm in Greene Township and it was a duster.

In Greene County the Manufacturers Light & Heat Co. completed No. 3,441 on the Ward H. Chambers farm in Richhill Township in the Big Injun sand, 1,921 feet, and it will make a gas well. In Washington County the Rapp Oil & Gas Co. drilled a test on the William McCaslin farm in West Bethel Township, which will make a light gas well from the Gas sand at 1,281 feet.

In Wayne Township, Greene County, the Manufacturers Light & Heat Co. started drilling No. 3,443 and a test on the Felix Bell farm but had to shut down at 250 feet waiting on water. In North Fayette Township, Allegheny County, H. Schaffer & Co. are building a rig on the H. H. Schaffer farm.

WEST VIRGINIA

Drilling in West Virginia is still struggling along badly hindered by a lack of water, the continuation of the drought which has lasted since spring. In some of the dams the water is at the lowest point in history. Among the 10 completions reported from this district there were no new oil producers, which in the light of the decreased price and market is a help. There were but two fair gas wells, the remainder being small or light.

(Continued on Page 96)

TEST OF ST. PETER SAND WELL PLANNED IN JACKSON COUNTY, TENN.

By George A. Whitney
Staff Correspondent, Tennessee Fields

NASHVILLE, Tenn., Nov. 3.—Tennessee is sharing with Kentucky in the increased activity caused by the big oil wells in the southern part of Hart County, Kentucky, where 250-bbl. production is obtained just under the Chattanooga shale at about 600 feet.

Mention was recently made of an attempt by the operators in the Lock's Branch Field, 4 miles north of Gainesboro, in Jackson County, Tennessee, to clean out and put to pumping a St. Peter sand well. It was found that several feet of sediment had settled in the bottom and the rods and tubing were pulled and the well was cleaned as much as possible with a bailer. After the 3 feet of oil sand was opened the oil rose to about 800 feet, and two days' bailing did not lower it below about 260 feet, bailer running at about 3½-minute intervals. The drillers and experienced operators rated the well at around 50 bbls. When all but two joints of tubing had been run in, the tackle broke, which will necessitate fishing it out before another string can be run in. Arrangements have been made to move a rig over the hole for that purpose and the well will also be drilled 15 to 20 feet farther into the sand, which in this area in Tennessee is known to range from 50 to 100 feet in thickness. An interested spectator of this proceeding was Dorset Carter of Oklahoma City, Okla., who was accompanied by his son and J. R. Taliaferro, the latter two being geologists. Mr. Carter is said to have conducted an independent investigation of the similarity of the St. Peter sand in Tennessee to the Wilcox sand of Oklahoma and has already leased up a large block east of the Lock Branch Pool on a structure worked out by J. H. McClurkin three or four years ago. He is understood to have purchased a portion of the Dodson lease, adjoining the St. Peter sand well on Long Branch, from the Bartlett Oil Co. of Scottsville, Ky., and has made a contract to start the first of several wells in 30 days. The entire country for several miles surrounding the Lock's Branch Pool is now under lease, a large block on the west side being owned by parties in Mount Vernon, Ohio.

Chester L. Wise of Washington, Pa., owner of extensive holdings in that district has notified his representatives in Gainesboro that he is arranging to drill several deep wells this fall and will test the St. Peters sand thoroughly. John Madlin, who has drilled two St. Peter sand wells along the Cumberland River just south of the Lock Branch wells, is arranging to resume operations as he retains several thousand acres around Gainesboro. Abe Steinberg, formerly active in the old Irvine, Ky., Field, spent several days looking over the field for some eastern parties who contemplate extensive operations when convinced that the Lock Branch St. Peter well is commercially productive. Operators have visited the field recently from Oklahoma, Texas, Owensboro, Ky., and Illinois. Some 10 or 12 rigs are running in various parts of the State.

The Nashville Banner is authority for the statement that Kirkwood & Campbell shot their deep well near Cookville and have developed a nice oil well in the St. Peter sand at around 1,700 feet. They were drilling for gas and are understood to be arranging to drill several wells on the structure but higher on the flank, hoping to develop a gas field. The Interstate Oil & Gas Co. of Kentucky has leased a large block around Hartsville where several gas wells were drilled about 1920 by Allen County, Kentucky, operators. They expect to test the St. Peter on two or three structures known to be on their holdings; this deep sand will be found in that area around 1,000 to 1,100 feet, as the Pencil Cave is encountered at about 200 to 300 feet, or possibly at a lesser depth in some localities. This block lies west and south of the area leased by the Missouri-Kansas Pipe Line Co. and the Armstead Oil Co., and all on the major structure on which J. H. McClurkin got a big gas well several years ago while drilling for oil.

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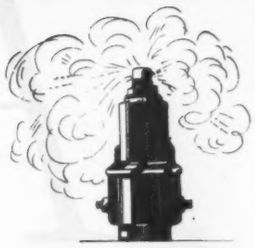

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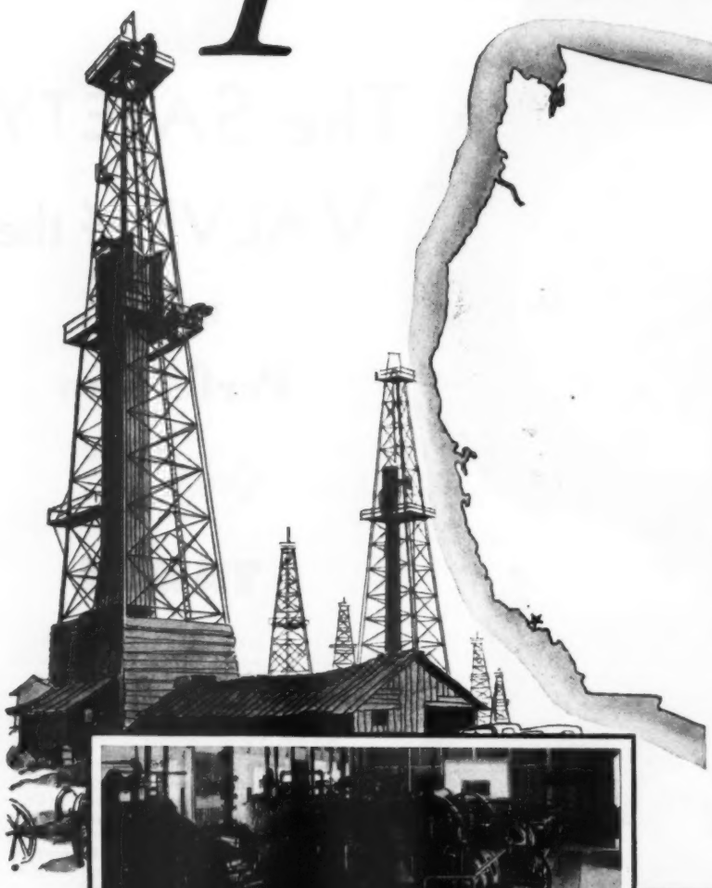

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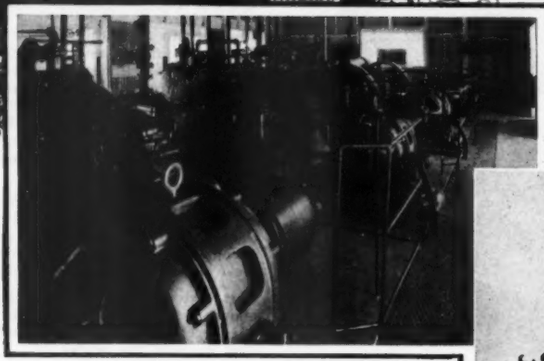
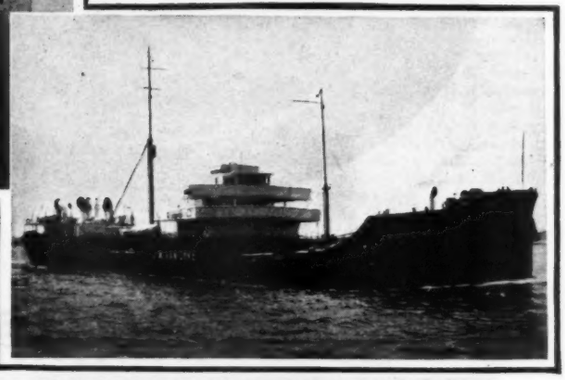


Compressor house for air-gas lift showing four 100-hp. Westinghouse Motors driving Ingersoll-Rand compressors at Long Beach, Calif.



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Personal Paragraphs About Oil Men

D. E. Buchanan, of Hanlon-Buchanan, Inc., has returned to Tulsa after an absence of many weeks spent in Europe.

* * *

Paul H. Harwood, vice president of the Pan American Petroleum & Transport Company, has arrived in England.

* * *

Reese Cleveland, manager of the securities department of the Oklahoma Natural Gas Corporation, Tulsa, has returned from a trip to San Angelo and West Texas.

* * *

J. R. Evans, scout and geologist with the Midwest Exploration Company, headquarters in Wichita, Kans., is in Rochester, Minn., called by the serious illness of his father.

* * *

J. S. Wallace, vice president of the Richfield Oil Company of California, addressed the Petroleum Accountants' Society at Los Angeles on the distribution of automotive costs.

* * *

Egon Koehler, formerly assistant purchasing agent for the Empire Companies at Bartlesville, Okla., is now associated with the Moorlane Company, Inc., in a sales capacity.

* * *

J. L. Quinn, general sales manager of the Standard Oil Company of California, with headquarters in San Francisco, Calif., spent a few days last week visiting Oklahoma City and Tulsa.

* * *

Reginald Stoner, assistant manager of the Standard Oil Company of California, with headquarters at San Francisco, has just completed a tour of Texas and New Mexico, looking over company properties.

* * *

George H. Jacques, general superintendent of the producing department of the Midwest Refining Company, left Casper, Wyo., for Chicago to attend a meeting of the board of directors of the Standard Oil Company of Indiana.

* * *

Pete Peterson, editor of the Indian Territory Illuminating Oil Company's house publication, announces the offices have been moved from the second floor of the Johnstone Building to the sixth floor of the Union National Bank Building, Bartlesville, Okla.

* * *

Ralph Ermey, formerly an oil scout with the White Eagle Oil & Refining Company and Vickers Petroleum Company, is now scouting the oil fields of Kansas and Nebraska for the Tom Slick Oil Company, Pryor and Lockhart, with headquarters in Wichita, Kans.

* * *

John T. Hayward, engineer in the production department of the Shell Petroleum Corporation, Tulsa, is leaving for a business trip that will take him to the company's main offices in St. Louis for about one week and then to various field operations of his company in the Gulf Coast area.

* * *

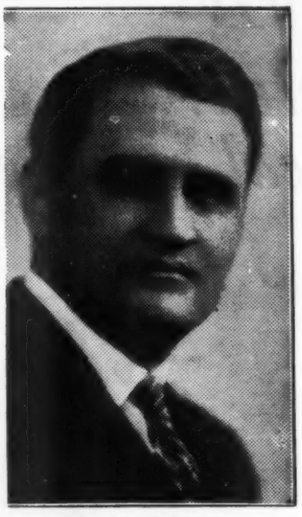
Frank C. Carr, of Oklahoma City, Okla., recently arrived in Casper, Wyo., to make his headquarters as representative of the Reed Roller Bit Company. In company with Lock McDaniel of Houston, Tex., general sales manager for this company, he is making a survey of rotary drilling development in the Rocky Mountain states. Mr. Carr motored to Wyoming from his Oklahoma office.

* * *

After election day a group of Kansas oil operators of Wichita, will go on a hunting trip to the Gulf Coast, making their headquarters near Corpus Christi, Tex. The group includes H. K. Beardmore, independent producer; Art Herschberger, oil attorney; W. L. and Dave Ainsworth, of the Western Petroleum Exploration Company; W. H. Jones and Ralph Pryor. The party will spend, from two to four weeks on the outing.

E. A. Satchell, of the production department of the Iraq Petroleum Company, Ltd., has left London, England, for Iraq for a tour of the fields.

Men of the Industry



John Charles Dallas

John Charles Dallas of Calgary, Alberta, generally recognized as the outstanding independent oil operator in the Canadian West, is president of the Quaker Finance Corporation, Ltd.; vice president and managing director of Calmont Oils, Ltd., and president of Dalfin Petroleum, Ltd., Wales Petroleum, Ltd., and Dalco Oil & Gas Company, Ltd.

A Canadian of Franco-Spanish descent, Mr. Dallas went to New York at an early age and later studied oil production in all its branches. He worked throughout most of the major oil fields from Texas to Montana. In 1919 when geological surveys reported favorably on the possibility of oil in western Canada, he filed on leases at Fort Norman. Finding, however, that inaccessibility and lack of communications prevented economic production there, he transferred his activities to southern Alberta.

In 1924, when the now famous Royalite's No. 4 blew in at Turner Valley, Mr. Dallas showed his faith in western Canadian oil by sinking his entire personal fortune in oil leases, and organizing companies to operate. The most important of these at the present time is Calmont Oils, Ltd., which holds extensive and valuable acreage in Turner Valley.

In its early stages, Calmont Oils, Ltd., experienced more than the usual trouble attendant on drilling in this probably the most difficult field in the world. In 1927, realizing that the company's operations might be curtailed through lack of capital, Mr. Dallas went to London, where he obtained the support of British investors in launching an aggressive campaign. As a result, Calmont Oils, Ltd., has 12 tests in this field, 8 of them on the "Dallas tract" in the prolific South Turner Valley. One of these, Calmont's No. 2, completed recently, showed a wet gas flow of 42,250,000 feet, a record for the field.

Recently Mr. Dallas negotiated an agreement with the Canadian Western Natural Gas, Light, Heat & Power Company to take over and develop some 26,000 acres in southern Alberta which had been geologized and favorably reported, and where development work has not been started.

Though still under 40, Mr. Dallas already has made himself an outstanding figure in Canadian oil development. Incidentally, he possesses what is reputed to be the largest Napoleonic library in Canada.

M. J. Norrell has been appointed director of publicity for the Magnolia Petroleum Company, Dallas, Tex.

* * *

Russell H. Forbes, general manager of Alberta Pacific Consolidated Oils, Ltd., of Calgary, Alberta, has resigned.

* * *

C. P. Dimit, vice president in charge of operations with the Independent Oil & Gas Company, has resigned to enter the oil business as an independent operator.

* * *

W. C. Mitchell, general manager of the Llandarcy refinery of the National Oil Refineries, Ltd., is visiting the United States.

* * *

A. J. Hardendorf, of Denver, Colo., associated with the Moody-Seagraves interests and an executive in the Fredell Construction Company, was in Casper, Wyo., recently.

* * *

J. Clyde Alexander, vice president and general manager of Phillips Petroleum Company of Bartlesville, Okla., is recovering from a serious illness in a Kansas City, Mo., hospital.

* * *

F. Godber, director in London, England, for all American operations of the Royal Dutch-Shell interests, is making a tour of California fields with George Leigh-Jones, president of the Shell Oil Company of California.

* * *

A. M. Porter, R. S. Tulin, and J. S. Watson, heads of the Shell Oil Company's natural gas and gasoline department, have been transferred from the Wilmington, Calif., refinery division to the production division, in Los Angeles.

* * *

W. E. Ramsey, who with his brother W. R. Ramsey, has been operating in California and Oklahoma, has opened an office at 737 Roosevelt Building, Los Angeles, from which point he will supervise future activities in California.

* * *

R. E. Donovan, chief engineer of the safety division of the Standard Oil Company of California, San Francisco, and Barton Carter, safety engineer of the same company, Los Angeles, have been making an inspection trip through the Mid-Continent and Texas fields.

* * *

J. R. Craun, formerly a scout with the Carter Oil Company, has been confined to his bed the past two weeks in Pawhuska, Okla., with complications following a stroke some time ago, and he is not improving. Mr. Craun was 66 years of age on October 25, and he had served over 30 years with the Standard Oil Company of New Jersey when retired.

* * *

H. C. Fowler, chief petroleum engineer of the United States Bureau of Mines, has been inspecting the Dallas, Tex., office of the bureau, and making a trip through Texas and Louisiana oil fields. H. B. Hill, supervising engineer of the Dallas office, accompanied Mr. Fowler to Dallas from Bartlesville, Okla., where they had been attending a conference of supervising engineers of the petroleum and natural gas division of the bureau.

* * *

Lord and Lady Cowdray, of London, England, Mr. and Mrs. E. L. DeGolyer, New York, and Major Avery of Australia, have been looking over New Mexico and West Texas oil fields in which the Amerada Petroleum Corporation has large holdings. Lord Cowdray is one of the English financiers who were principal founders of the Amerada corporation, parent company of the Amerada Petroleum Corporation. E. L. DeGolyer of New York City is chairman of the board of the Amerada corporation. Sidney Powers of Tulsa, chief geologist, president of the American Association of Petroleum Geologists, accompanied the party on a trip to the West Coast and back through New Mexico and Texas.

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Natural Gas Industry Developments

WILL USE KETTLEMAN FOR BUTTONWILLOW GAS

LOS ANGELES, Calif., Nov. 1.—Production of natural gas at Buttonwillow Springs has been voluntarily discontinued, in the interest of conservation, by Milham Exploration Co., under terms of an agreement with The Texas Company and Pacific Gas & Electric Co.

Through this action the Milham company's field at Buttonwillow will be shut in and gas now being blown into the air at Kettleman Hills through necessity will be substituted in fulfillment of existing contracts. The Texas Company and Pacific Gas will co-operate in attainment of this objective.

Shutting in of Milham's gas production at Buttonwillow will reduce the amount of gas blown into the air at Kettleman by at least 15,000,000 feet a day.

Milham, a subsidiary of Mexican Seaboard Oil Co., has a large production of dry gas at Buttonwillow which is being sold to Pacific Gas for piping to San Francisco. The company's Kettleman gas is treated by The Texas Company, and a substantial portion of the residual dry gas is taken from the Milham-Texas plant for piping to San Francisco.

BUYS FOUR COMPANIES

The Central Public Service Corp. has acquired four gas companies serving 13 towns in Pennsylvania and New Jersey, and has disposed of a subsidiary operating in three municipalities in Mississippi, Albert E. Peirce, president, announced.

The properties purchased are the New Jersey Northern Gas Co., operating in Pennington, Hopewell, Stockton, Ringoes, Lambertville, Flemington, Eastamwell and Westamwell, N. J.; the Bangor Gas Co., serving Bangor, Pa.; the Citizens Gas Co., serving Stroudsburg and East Stroudsburg, Pa., and the Jersey Shore Gas Co., serving Jersey Shore and Roseto, Pa.

The companies were acquired from the Tri-Utilities Corp., which purchased in turn the Mississippi Service Co., which serves Columbus, Hattiesburg and Meridian, Miss.

GAS FOR ALTMAN, TEXAS

FORT WORTH, Tex., Nov. 1.—The Moore County commissioners court has granted the Shamrock Oil and Gas Co. a franchise for supplying the new town of Altman, 18 miles northeast of Dumas, with gas. Altman is a growing town on the new line of the Rock Island Railroad between Morse and Dalhart.

Burkburnett Gas Co. has let a contract calling for the expenditure of $20,000 to improve the company's properties. When the lines are laid and work completed about 95 per cent of the people of Burkburnett will be served with a new system.

O. N. G. VICE PRESIDENT

Wm. P. Canavan of Oklahoma City, has been appointed a vice-president of the Oklahoma Natural Gas Corporation, in executive charge of western Oklahoma properties, including Oklahoma City, Guthrie, Enid, Shawnee, Ardmore, Norman and El Reno. J. W. Duvall, of Oklahoma City, who has had charge of industrial sales for the company in the western part of the state, has been appointed superintendent of the industrial sales department for the entire system to succeed R. H. Ulrich, of Tulsa, who has formed a connection with the operating department of the Southern Natural Gas Corporation with headquarters at Birmingham, Ala.

LINE TO SUDAN, TEX.

SUDAN, Tex., Nov. 1.—West Texas Gas Co. has been busy connecting business houses and city homes with its lines preparatory for the coming winter. Engineers of the company have completed a survey of the main line from Sudan to Muleshoe and right of way is now being secured. Laying the main line pipe will begin in about a week and Muleshoe will be connected in time for cold weather.

VALIDITY OF CONTRACT TO BUY NATURAL GAS

A public utility contract declared by the Circuit Court of Appeals for the Eighth Circuit to be invalid since it was in partial restraint of trade is involved in the case of Twin City Pipe Line Co. and others v. Harding Glass Co., No. 330, which the Supreme Court of the United States by its action upon a petition for a writ of certiorari has accepted for review.

By the provisions of the contract between the pipe line company and the glass company for the sale of gas, the latter agreed to take all of its requirements of gas from the pipe line company so long as it could adequately supply these requirements, the petition declares. The rates were to be those then existing for industries fixed by public authority, or such as might be fixed. Suit was started when the glass company announced its intention of violating the contract and taking its own gas from its own subsidiaries.

The lower court decided in favor of the glass company, it is alleged, "on the sole ground that such a 'requirement' contract was in partial restraint of trade, and that where one of the parties is a public utility and the other party is one of its customers, a contract even in partial restraint of trade is contrary to public policy."

EXTENDS METER TESTS

NEW YORK, Nov. 1.—Regulations for the testing of gas meters, which have been in force in New York City, will be extended through the entire state, according to plans of the Public Service Commission, disclosed in a statement by Milo R. Maltbie, a member of the commission.

"The adoption of standard regulations, which shall apply to every company within the state, will correct any instances where gas meters are running too fast and will thereby protect every gas consumer in the state against the possibility of paying for more gas than is actually used," Mr. Maltbie said.

"In order to give the companies an opportunity to be heard upon the proposed standard regulations for meter testing," he continued, "the Commission has fixed a hearing to be held Nov. 19 at its offices in the State office building at Albany."

TEXAS GAS UTILITIES SALE

Appalachian Gas Corp., announces the acquisition of the remaining 25 per cent of outstanding common stock of Texas Gas Utilities Co., making it a wholly owned subsidiary. The acquisition was effected through the exchange of stock and involves no public financing. Texas Gas Utilities Co. produces natural gas in the West Texas Field, distributing same in Val Verde, Dimmick, Maverick and Zavalla Counties, Texas. Its largest customer is the Devil's River electric generating plant of Central Power and Light Co., with an estimated consumption of upward's of 5,000,000 cubic feet daily. Approximately 200 miles of pipe line are owned, including the domestic distribution systems in Del Rio, Eagle Pass, Uvalde, Crystal City, Carizzo Springs and the Winter Garden, Texas.

CANADIAN GAS MEN HOLD ANNUAL MEETING

By Victor Lauriston

CHATHAM, Ontario, Nov. 1.—At the twelfth annual convention of the Natural Gas and Petroleum Association of Canada held at the Hotel General Brock, Niagara Falls, Ontario, President C. E. Steele referred to the steadily improved position of the natural gas industry and the better understanding now existing between the natural gas companies and their customers. The improvement, he said, more than justified the organization of the association.

Maj. E. Sweet of Brantford presented the report of the laws and legislation committee. An important amendment to existing legislation was the inclusion of natural gas companies in the same category as other public service companies in respect to outlays occasioned by highway improvement. As a result, natural gas companies were entitled to be reimbursed 50 per cent of the cost of work necessitated by highway improvement.

A telegram from G. W. Allen, secretary of the Canadian Gas Association, expressed regret at his inability to be present, tendered good wishes, and named J. B. McNary as representative of the association.

In his presidential address, Mr. Steele referred to the great improvement alike in the methods and the position of the natural gas industry.

A paper on "Load Building Through the Sale of Automatic Gas Water Heaters and Central Gas-Fired House-Heating Equipment," prepared by Emil A. Reinhardt, special engineer, Pittsburgh Water Heater Co., was read by Bennett Walker.

S. T. Lockwood presented a paper on the "Dayton Oil Gas Process," prepared by Walter C. Dayton, consulting engineer of the General Oil Gas Corp., New York, Mr. Dayton being unable to attend on account of illness. The paper had special reference to the new installation for the Union Natural Gas Co. at Windsor, Ontario.

Following the papers, a questionnaire on practical gas problems was held. A feature was a paper on the home service department by Miss Jessica Reid of the Consumers Gas Co., Toronto. The questionnaire was presided over by J. A. Richie of the Dominion Natural Gas Co.

The nominating committee, through Chairman J. B. McNary, recommended the re-election of the previous year's officers, as follows:

President, C. E. Steele, Port Colborne; first vice president, S. B. Severson, Buffalo, N. Y.; second vice president, J. A. Richie, Buffalo, N. Y.; secretary-treasurer, S. A. Morse, Chatham; assistant secretary, Joseph McKee, Chatham; directors: Maj. E. Sweet, Brantford; J. B. McNary, Hamilton; G. D. Wickett, Windsor; George H. Smith, Port Colborne; J. A. McNevin, Chatham; Jacob Kohler, Cayuga.

The report was unanimously adopted. President Steele has held office continuously since the association was first organized in June, 1919.

On recommendation of a special committee composed of E. C. Steele and T. E. Neeley, the secretary was instructed to extend the association's sympathy to the immediate families of members who had passed away in the year just closed. The list includes R. Leach of Kingsville; J. Donahue, Toronto; Thomas Schiller, St. Catherines, and M. Levy of Dunnville.

APPALACHIAN SALES

Companies in Appalachian Gas Corporation Group, exclusive of companies which were not operating during 1929, delivered 11,927,337,500 feet of natural gas during the first eight months of 1930, an increase of 1,817,068,500 feet over the corresponding period of last year, or approximately 18 per cent, the corporation announces.

Operating earnings of Memphis Natural Gas Co. for the eight months' period have shown an increase of 66 per cent, while those of Allegheny Gas Corp. increased 52 per cent. Both companies are embraced in Appalachian Gas Corporation group.

NEBRASKA RULING ON EMINENT DOMAIN

LINCOLN, Neb., Nov. 1.—Natural gas companies not domesticated in Nebraska are not authorized by law to exercise the right of eminent domain for the purpose of acquiring a right of way for their pipe lines, in the opinion of Attorney General Sorensen, asked for by the state railway commission to which application had been made. The state has a law that permits gas companies to exercise this power, but the attorney general says that as it does not specifically mention foreign corporations they are not included within its benefits. He reaches this conclusion, he says, from a study of the public policy of the state, which has been repeatedly set out in laws and court decisions to the effect that foreign corporations and aliens cannot hold real estate in Nebraska. He adds that if the legislature had intended to make any exceptions it would have included them in the pipe line law.

EASTERN PENNSYLVANIA LINES

Four applications of the Manufacturers Light & Heat Co. for the right to construct gas pipe lines through four streams in Chester County, Pennsylvania, have been approved by the Pennsylvania Water and Power Resources Board. The company is a subsidiary of the Columbia Gas & Electric Corp. The streams are: Octoraro Creek, near Pinegroves, on the Lancaster County line; Brandywine Creek, near Mortonville, Doe Run Road; Buck Run in East Fallowfield Township, and Doe Run in Rosewick.

OHIO TAX SUIT

The United States Supreme Court found that probable jurisdiction had been shown in the East Ohio's suit against the tax commission of Ohio resisting the demand for the payment of taxes with penalties amounting to more than $900,000 on "omitted gross receipts" from gas obtained by the company from the Hope Natural Gas Co. of West Virginia and the Peoples Natural Gas Co. of Pennsylvania. The East Ohio contends the order imposes a burden on interstate commerce.

REDUCE ELK CITY RATES

OKLAHOMA CITY, Nov. 1.—The Central States Power and Light Corp., filed voluntary gas reductions with the corporation commission for Elk City. The reduction will average 19 per cent to domestic consumers. The new rate is 50 cents per thousand feet for the first 5,000, 48 cents for the next 15,000, 45 cents for the next 10,000, 40 cents for the next 20,000, 20 cents for the next 50,000, 18 cents for the next 50,000 and 15 cents for all over 150,000.

GALVESTON GAS RATE

GALVESTON, Tex., Nov. 1.—Texas Cities Gas Co. has presented a petition to the city commission seeking an increase from the present rate of $1.50 per 1,000 feet to $2.50. The company alleged that the present rate, in effect one year, does not enable it to earn a fair return on a valuation of $2,106,157.

DIFFERENT

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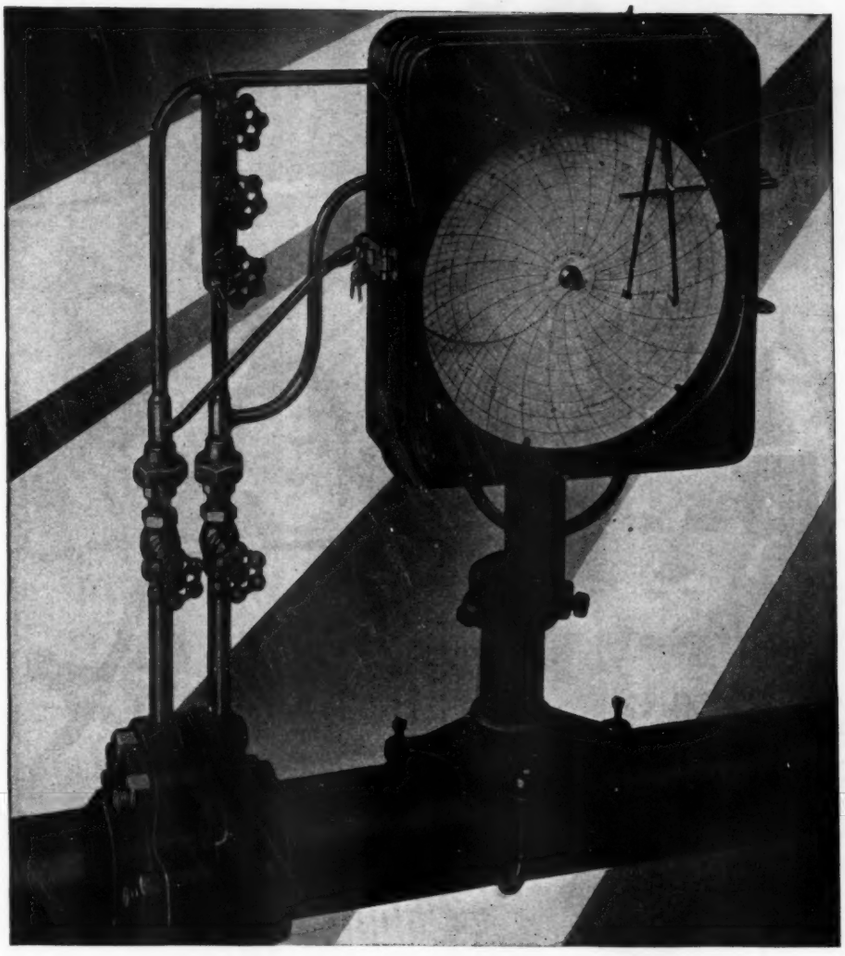

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Simply change mercury chamber.

Dial differential calibrating and adjusting device.
Makes hairline adjustment easy.

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All parts of differential movement subject to corrosion are of stainless steel.

All-welded manifold.
Overcomes small leaks.

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EMCO METERS AND REGULATORS

Caught While Scouting With The Journal's Cameras

1—Wiley C. Davis, bookkeeper; C. K. (Peewee) Frazier, manager; and Kenneth Bays, store clerk, Wichita branch, Hinderliter Tool Co.; J. D. Vance, tool-pusher; and R. E. Jolly, superintendent drilling tools, Phillips Petroleum Co., Wichita, Kans. 2—Jean Borissoff, engineer technologist, Grozneft, Grozny, U.S.S.R. and L. M. Edemsky, refinery engineer, Grozneft Oil Trust, Grozny, U.S.S.R. 3—W. J. McKee, B. Robinoff, F. R. Braman, National Tube Co., Pittsburgh, Pa. 4—J. F. Barron, independent operator, Dallas, Tex. 5—Robertos Raventos, representative of the Argentine, South America, at the International Petroleum Exposition. 6—H. R. Stroube and Frank McNally, superintendent, Stroube & Stroube, contractors, Corsicana, Tex. 7—C. C. Brown, salesman, and H. H. Gray, secretary-treasurer, Gray Specialty Co., Houston, Tex. 8—Dave Crawford and John Crawford, president, Parkersburg Rig & Reel Co.,. Parkersburg, W. Va.

ACCURATE THREADING

THE MODERN high pressure mud pumps demand the perfect pressure tight connections assured by Spengler Tool Joints. Machined to precision from special heat treated alloy steel, their accurate, clean cut threads grip and HOLD.

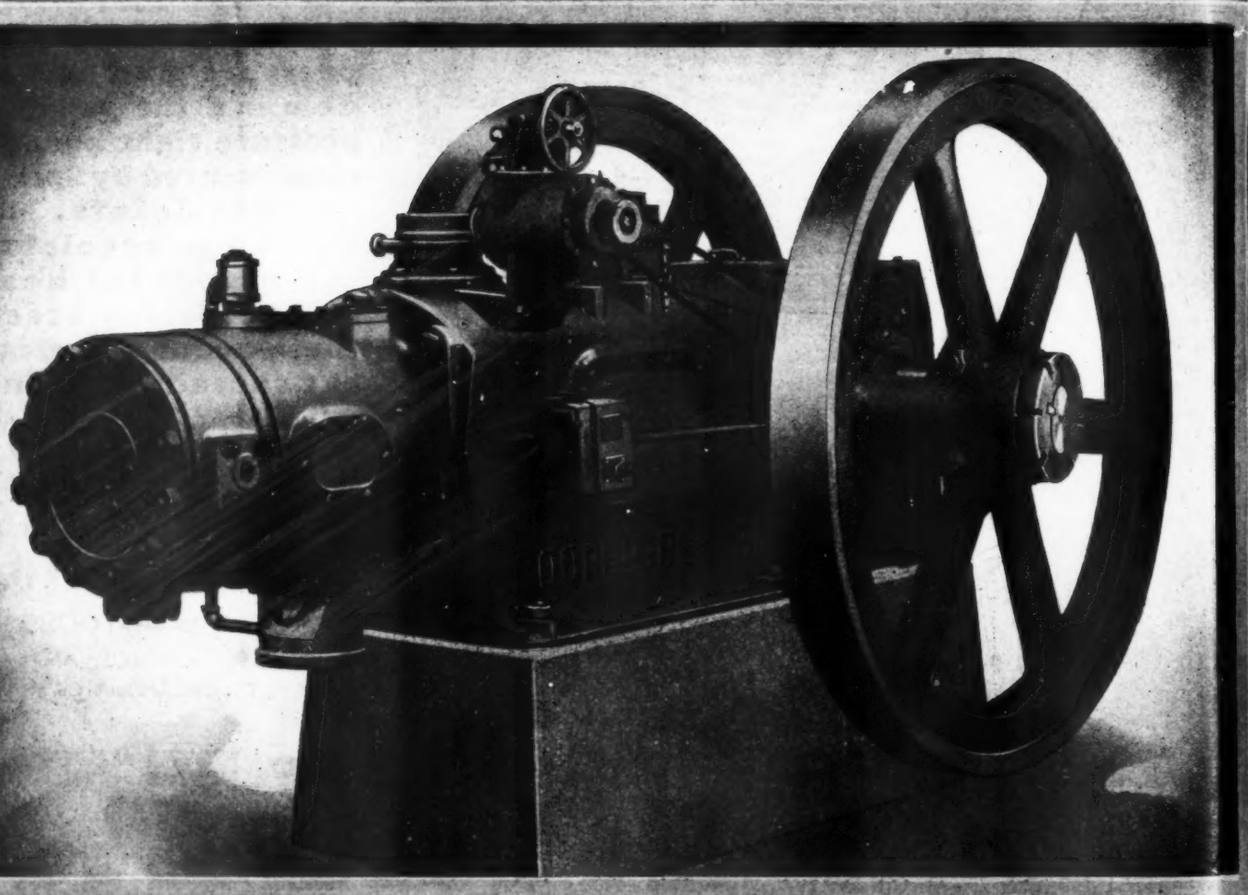
SPENGLER TOOL CO.
ROTARY Drilling TOOLS
GENERAL OFFICES AND
PLANT. OKLAHOMA CITY

SPENGLER

ROTARY CHAIN, ROCK BITS, CONES

STRONG IN

TYPE GA



COOPER-

ITS VITALS

EXTRA STRONG CRANKSHAFT EXTRA HEAVY BEARINGS

IN that hidden and vital part—the crankshaft—Type GA pumping and drilling engine has ample reserve strength. Considering the horsepower, the crankshaft diameter is extra large. And the shaft is built of high grade heat-treated steel, die-forged so that the flow lines of the metal are uncut. TIMKEN main roller bearings (railway size) likewise help to make Type GA a stronger, better running, longer-lived engine. Similar parts have seen hard service in Cooper-Bessemer Type 16 for more than three years—without a single report of trouble. With strong parts inside a sturdy main frame, Type GA subtracts maintenance and adds production. Sizes 25 to 50 B. H. P.

THE COOPER-BESSEMER CORPORATION

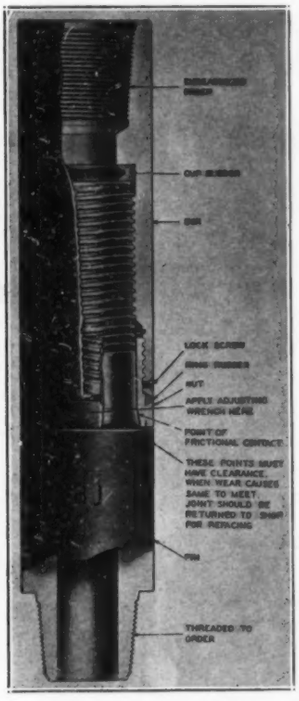
Mount Vernon, Ohio Grove City, Pennsylvania

BESSEMER

Oil Field Equipment and Supplies

BYRON JACKSON MAKING IMPROVED TOOL JOINT

When it becomes necessary to "back-off" a string of drill pipe because of a stuck bit, it usually is considered the best practice to do so at a point as low on the string as possible, preferably just above the drill collar. All the drill pipe


LOCK SCREW
RING RUBBER
NUT
APPLY ADJUSTING WRENCH HERE
POINT OF FRICTIONAL CONTACT
THESE POINTS MUST HAVE CLEARANCE. WHEN WEAR CAUSES SAME TO MEET JOINT SHOULD BE RETURNED TO SHOP FOR REFACING
PIN
THREADED TO ORDER

then can be recovered and fishing and sidetracking operations are simplified. Ordinarily there is no way of knowing which joint will unscrew, and no way of breaking at any desired point.

To overcome this difficulty, the BJ safety joint, made by the Byron Jackson Co., Los Angeles, Calif., was produced. This is essentially an improved tool joint, so designed that it will always release first if the direction of the rotary is reversed. It usually is placed just above the drill collar, to make sure that the string breaks here. Some operators also install one just below the kelly, so that if the well comes in unexpectedly, the kelly can be backed off, and the well flowed through the drill pipe, after head fittings have been installed.

The BJ safety joint is designed to avoid retarding circulation either through it or around it. The fluid passage through the joint is straight, without any shoulders or protusions which would make it difficult to run a surveying device through it.

LINK-BELT CO. EXPANDS

Following the recent completion of a new factory in Toronto, Canada, and an entirely new plant to house its Pacific division in San Francisco, the Link-Belt Co. now announces another improvement for its Indianapolis, Ind., foundry. It has closed a contract for a powdered coal system entailing an expenditure of $125,000. The contract covers the installation of a powdered coal system at this plant, where Link-Belt chains for elevating and conveying are made. A building to house the system, and alterations in the plans, will be included in the improvements. This system will modernize the process of firing the melting and annealing furnaces and the heating of the boilers.

AMONG THE EQUIPMENT HOUSES

James A. Harte has been made sales and engineering representative in Tulsa for the American-LaFrance and Foamite Industries, Inc. For three and one-half years he was chief engineer for the company.

The office of Peipmeyer & Co., in Houston, Tex., which has been under the management of Dr. H. A. Roerig is being moved to Mexico. Dr. Roerig will remain in Houston for a few weeks to close the company's affairs in that city.

The Young Radiator Co., Racine, Wis., reports that in September it had the largest total output of products of any month in 1930.

C. H. Lane, president of the Thrift Corp., Houston, Texas, had completed arrangements to handle the sale of Driftmeter Juniors in Texas, Louisiana and Arkansas.

The office of the Johnston Formation Testing Co., under the management of J. L. Johnston, has been moved from Houston, Tex., to Corpus Christi, Tex. Mr. Johnston will make regular trips to Houston.

The Hercules Motors Corp., of Canton, Ohio, has appointed the Hedge & Mattheis Co., Boston, Mass., and Cyril J. Burke, Detroit, Mich., as new distributors for Hercules engines, power units and spare parts.

Net profit of $2,160,260 for the nine-month period ending September 30 is reported by Hercules Powder Co. After payment of regular preferred dividends there is available for the period $2.59 per share on 603,079 no par common shares.

The Blackor Co., Los Angeles, Calif., announces that effective November 1, headquarters will be maintained in both Houston, Texas, and Tulsa. A. N. Muhr will be in charge in Tulsa and Ross Ledford in Houston.

CORROSION IS REDUCED BY ALLOYED CAST IRON

Development of a corrosion-resisting alloyed cast iron which possesses valuable heat-resisting properties, making the material useful in the petroleum industry, is reported in a paper, "A Corrosion and Heat Resistant Nickel-Copper-Chromium Cast Iron," by J. S. Vanick and P. D. Merica of the International Nickel Co., New York. Mr. Vanick and Mr. Merica have summarized laboratory and field tests dealing both with the production and application of this material, known as Ni-Resist.

In actual practice this nickel-copper-chromium cast iron is said to have operated satisfactorily in oil refining liquors such as crude oil itself, sludge lines, caustic lines, distillate lines, and has been used largely in the form of valve seats, discs, pipe lengths, pump liners, pump valves, manifolds, relief valves, etc.
pipe lengths, pump liners, pump valves, manifolds, relief valves, etc.

The authors of the paper state the material has a coefficient of thermal expansion comparable with that of aluminum base alloys which has led to its use in conjunction with such alloys in internal-combustion engines.

PULLING JOB NEEDLESS IN REMOVING PARAFFIN

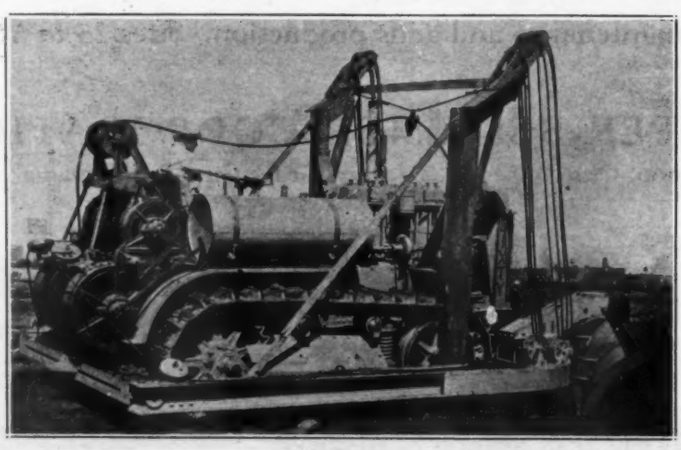
The Hart paraffin steamer, manufactured by Hart Bros. & Co., Tulsa, is designed to eliminate pulling pump rods and tubing to clean them of paraffin. It is said to keep water off the sand and to keep steam away from the shoe, so that it is not expanded by heat.

The head of the steamer, an electric steel casting, specially annealed, has a four-inch fishing neck. Shoulders keep the valves from blowing out and protect them from rod and interference.

A 20-inch sleeve packer allows free passage of gas at all times except during the time required to steam the well. A rubber packer which prevents water and steam from passing below the machine is protected from steam by 20 inches of water above it. The device carries no back pressure on a well.

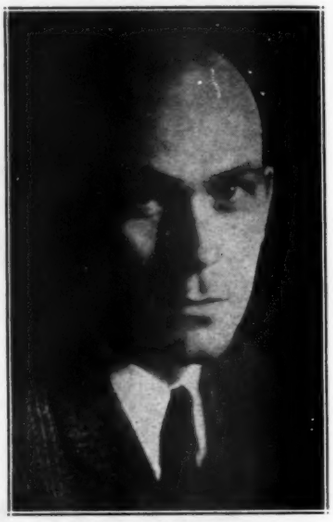
The machine is installed from 800 to 1,000 feet down the well and a steam line is connected to the casinghead. Condensed water is blown out of this steam line and steam is turned down the hole for 15 or 20 minutes. Then the well is blown off and this operation is completed. This must be done when well is pumping.

CATERPILLAR SIXTY BACKFILLER AND PIPE LINE LAYER



MEN KNOWN *in* THE EQUIPMENT FIELD

Ray P. Tarbell, who has become a member of the firm of Robert E. Kinkead, Inc., consulting welding engineers, Cleveland, Ohio, was formerly Cleveland



Ray P. Tarbell

district sales manager of the Lincoln Electric Co.

Mr. Tarbell entered the employ of the Lincoln Electric Co. in 1918. He was promoted to the sales force and later made district sales manager. He attended Dartmouth College.

Robert E. Kinkead, Inc., serves as welding engineering consultants for large steel companies, steel fabricators and manufacturers of mechanical equipment. The company also supervises the establishment of welding departments within industrial firms and directs the methods of welding procedure and control and the redesign of products for arc welded steel construction, a field in which Mr. Tarbell has been actively engaged for years. As vice president and secretary, Mr. Tarbell will aid Robert E. Kinkead as president of the firm which bears his name.

NEW BETTIS COMPANY FORMED

A new company has been formed for the distribution of specialty products in California, to be known as the California Bettis Co. The principal product will be the Bettis protectors and drill stabilizers, although other specialty products will be handled including the Red Devil steel rotary hose and rotary mud screener. The officials of the company include the following men who have been associated with the distribution of Bettis protectors in California: Harry Taylor, Jess W. Hughes, Paul Medearis and George Terry. Headquarters will be maintained in the Insurance Exchange Building, Los Angeles, Calif.

NEW LOS ANGELES PLANT

The new branch factory of the Pittsburgh Equitable Meter Co., in Los Angeles, Calif., carries a complete line of water, gas, oil and gasoline meters and pressure-regulating equipment. Any necessary repairs to equipment installed on the Pacific Coast can be made here.

Globe-Made Oil Tools

"M-5" DRILLING BIT

Reams as it digs—cuts a full-gauge, round hole—eliminating much useless and tedious reaming. It is a marvel for speed and service. Particularly adapted to making hole up to ten inches.

TYPE "B-2" DRILLING BIT

Cuts a core and then destroys it, biting its way swiftly through hard formations with minimized resistance. Designed for 10¾" holes and larger.

MODEL "M" ROCK BIT & 3-POINT REAMER

Advanced tooth design, ease of assembling and removing safety cones, and the unbreakable connection between cones and bushing, are features which are responsible for the high efficiency of this bit. Greatly increased service and footage result. Bit is held straight and steady by reamers.

GLOBE OIL TOOLS CO.

LOS NIETOS, CALIFORNIA.

Successors to: H. C. Smith Manufacturing Co., Inc.; Wieman-Kammerer-Wright Co., Inc.; National Tool & Metals, Inc.

BRANCHES: Ventura, Calif. Bakersfield, Calif. Kettleman Hills, Calif. Taft, Calif. Hobbs, New Mexico Oklahoma City, Okla.

Your Name ..... Firm Name .....

Address .....

Oil Field Equipment and Supplies

WESTINGHOUSE HAS NEW WELDER ON THE MARKET

A new 600-ampere, FlexArc, single-operator, engine-driven welder for pipe line welding has been placed on the market by the Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa. The demand for higher speed in welding gas and oil pipe line joints in the field led to the development of this special welder for use with high-speed, high-current, large-size, coated electrodes using high-voltage arcs. While the machine is designed primarily for use with such electrodes, the application of the FlexArc principle permits equally good operating characteristics and arc stability on the low-current ranges with small electrodes. The machine is particularly adapted to rough and severe field service where sustained loads and high currents are required over long periods.

This new welding unit provides welding currents up to 750 amperes for every job encountered by the pipe line welding operators. The welding generator is the variable-voltage, constant-current type operating at 1,450 r.p.m. The new Westinghouse Flexactor is incorporated in the welding circuit, thus eliminating current surges at the time of striking the arc and while welding.

The main generator frame fits directly into the engine flywheel housing, making it possible to use a single-bearing flexibly coupled generator. An over-size exciter is overhung from the main generator bracket for separately exciting the welding generator shunt field and for furnishing auxiliary power. Separate excitation increases the efficiency and simplifies welding current control. The generator control consisting of a single dial rheostat, ammeter and voltmeter, are all mounted on rear panel of set with a protective cover.

The driving power consists of a six-cylinder gasoline engine with an S. A. E. rating of 51.2 and 83 brake horsepower at 1,450 r.p.m. This horsepower rating has been selected by the manufacturer to provide sustained power and long life. The welding unit is equipped with a 25-gallon gas tank, Pierce governor, Eisemann magneto, large air cleaner, oil filter and protective radiator guard.

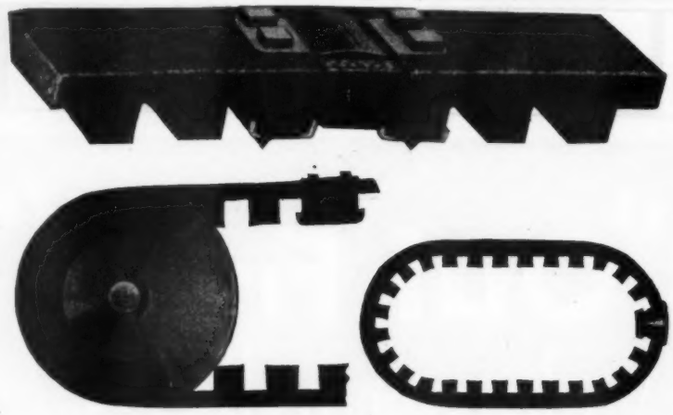
The complete unit is mounted on common 8-in. welded channels and equipped with a sheet-metal canopy, having removable sides and extending full length of the set, providing weatherproof protection to the complete machine. The overall dimensions of the stationary unit are 121"x 34"x72" with an approximate net weight of 5,000 pounds.

NEW COOLING PRINCIPLE USED

Davey air compressors, made by the Davey Compressor Co., Inc., Kent, Ohio, are said to apply successfully the principle of air cooling. They deliver 142 cubic feet of air per minute. Compressor heads and manifolds are of special aluminum alloy, cast with deep fins to give greater radiating area. Of all commercial metals, aluminum is the most rapid conductor of heat. High temperatures generated inside the compressor head are instantly passed through the aluminum walls, preventing any possible "piling-up" of heat within the compressor. With such low temperatures there is said to be no carbon formation. Air pressures remain at constant high efficiency. Tools are kept comfortably cool and the output of work per man holds up at steady volume.

The Busch-Sulzer Brothers-Diesel Engine Co., St. Louis, Mo., has issued a bulletin devoted to the record of one of its engines which ran 385 days without stopping.

DAYTON TO MAKE NEW RODERWALD LINK-WEDGE BELT



The Dayton Rubber Manufacturing Co., Dayton, Ohio, has announced through its president, J. A. MacMillan, that it has completed negotiations with the Roderwald Co. of Berlin, Germany, for the manufacturing and distributing rights in North, South and Central America of the new V-shaped link-wedge belt. Manufacture will start in about 60 days.

"The link-wedge belt," said Mr. MacMillan, "is constructed of fabric and rubber and was perfected by Herr Roderwald, president of the Berlin Co., after 10 years of experimentation. It is of V-type construction with integral cogs on the inside and runs on a standard V-shaped pulley. Uses for the new belt are practically unlimited. The outstanding feature is that this V belt is flexible and adjustable to any length desired. A metallic clamp is used to join the ends.

"The new link-wedge belt will greatly augment our present line of endless V belts and throws open to us such large fields as line shaft drives, and practically every branch of industry on power drives from fractional to thousands of horsepower."

VALVE PARTS REPLACED WITHOUT PULLING SEAT

The Mission Sales Co., Houston, Texas, has completed tests on the new Mission valve and has begun manufacture and distribution. All wearing parts of the valve are replaceable without pulling the seat. This saves the cost in time of pulling the valve seat every time a wearing part must be replaced. Tests are said to have shown that the valve proper and rubber inserts will run under high pressures for 60 days or longer without change. In many cases, under high pressures, the rubber insert was not changed during a 90-day period of continual service.

In the Mission valve the blow of the valve in sealing off is taken on a steel bushing placed in the cross rib of the seat, thus avoiding any metal-to-metal contact on the sealing surface. The rubber insert is held ⅛-inch from the sealing surface, being pressed into a seal by the pressure with no weight of metal upon it. The seal-off is made gradually instead of by sudden impact. At the same time, the rubber, through its resilience, is said to make a perfect shut-off, even though foreign particles are on the sealing surface, without causing the particles to cut the seat or damage the rubber.

This valve may be used where there are pumps of various makes in operation since the caps, bottom plates, nuts, bushings, and rubber inserts are interchangeable.

BUILDING FACTORY ADDITIONS

The American Asphalt Paint Co., Chicago, which recently put on the market a new line of asphalt-granite, asphalt-aluminum and kindred paints, now announces that increased volume of business has led to the building of additions to both its factories, in Lincoln, N. J., and Kankakee, Ill.

MOTOR BUILT TO MEET HAZARDOUS CONDITIONS

The General Electric Co. announces a new line of totally enclosed, fan cooled motors for hazardous conditions specified as Class 1 in the National Electrical Code. This line, the culmination of a development which has been in progress for years, interprets the modern trend of induction motor construction and conforms in most ratings to the mounting dimensions of open, general purpose motors.

The polyphase induction motors at present embrace ratings from three-fourth to 30 horsepower in popular speeds and is especially designed for use in explosive gas conditions classified as Class 1, Group D, such as are found in gasoline refineries, garages, gasoline handling and filling stations, chemical plants, paint factories, alcohol plants and similar locations where the hazard involved is equal to or less than that involved with high test gasoline vapor air mixtures.

These motors are suitable for either indoor or outdoor operation and eliminate the necessity for fire walls and other arrangements now found necessary with the ordinary open or enclosed motor.

In the single phase motors there are at present ratings from one-half to two horsepower, totally enclosed, for the same service, and fractional horsepower ratings from one-fourth to one-half horsepower, the latter either the repulsion induction type or direct current motors. All these motors comply with the specifications of the Underwriters' Laboratories which tested several sizes preparatory to the formal listing of the complete line as suitable for use in Class 1, Group D, and Class 2 hazardous locations.

Link-Belt Co., Indianapolis, Ind., is sending, upon request, a 32-page comprehensive data book devoted to Promal chains.

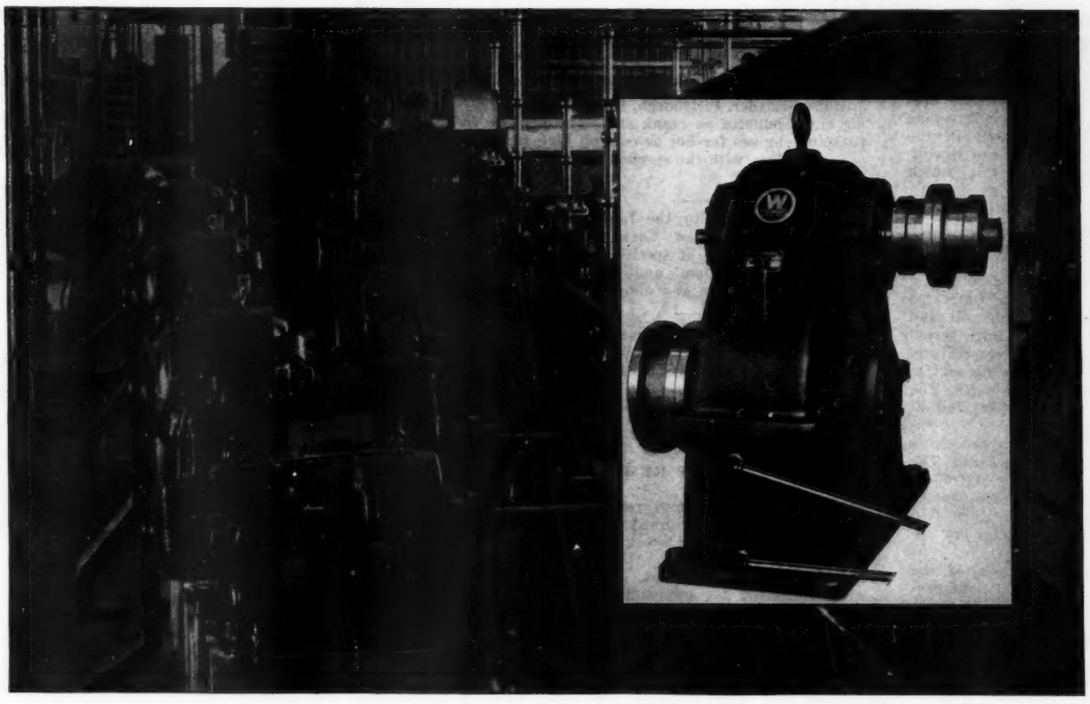
SAFE REVERSE ENGINE IS EASY OF OPERATION

The safe reverse engine, distributed by the Crausbay Supply Co., Houston, Tex., is presented as a successful power reverse gear easy of operation and designed to fit any single or twin-cylinder steam oil field drilling engine. The safe reverse engine consists of a complete steam-operated reversing gear which can be quickly attached to any steam drilling engine employing the Stevenson links or similar reversing appliance. The gear is controlled by a forward and backward movement of the rod which operates the throttle valve of the drilling engine. This device enables the operator to reverse the engine quickly and safely as the valve controlling the device requires only a few pounds pressure on the control lever to reverse the engine or place it in neutral position.

The following features are enumerated as of special importance: The drilling engine can be placed in midgear position from either forward or reverse position. No water can accumulate in the cylinder as steam cannot enter it while the engine is in forward position. Steam which occupies cylinder when in midgear or reverse position is exhausted into the atmosphere when the engine is placed in forward position. When operating in freezing weather petcocks in the steam chest may be left open and freezing prevented. Lubrication is supplied from the steam line and no more is required than is sufficient for the drilling engine. The operator can stand at all times in a position where he can handle throttle wheel and brake at the same time. Steam enters the cylinder through an opening one-sixteenth of an inch in diameter and will operate on a minimum of 20 pounds of steam pressure, and operate equally well upon a steam pressure of 400 pounds. The device can be used either in connection with combination lever and throttle control or with separate reverse lever. When attached it becomes a part of the engine and need not be removed when the engine is moved to another location. A pull of 3 inches on the hand wheel places the engine in midgear and a pull of an additional 3 inches places the engine in reverse, with approximately five pounds of pressure.

BEAUTY AND UTILITY UNITED

It is rather strange to find in the heart of a building of architectural beauty so utilitarian a piece of machinery as a crane, and stranger, perhaps, to find the craneway in keeping with the beauty of the structure. But that has been achieved in the new Research and Engineering Building now being erected by the A. O. Smith Corp. in Milwaukee, Wis. The building was planned as a laboratory in which the company's engineering force is to carry on its industrial development work. Much of the work is done with steel in large masses, so a crane had to be provided. The building itself is of strikingly "moderne" architecture. Its facade, built almost entirely of glass and aluminum, its new hollow column construction, its battle-deck floors and other features have attracted the attention of architects and engineers. The huge craneway occupies the court of the structure, which is U-shaped. Eight consecutive 80-foot arched spans, each 3 feet square and with a 10-foot rise, support a vaulted glass and concrete skylight 160 feet long. The skylight is erected over the court at the third floor level, and the craneway at the second floor. This allows for a 24-foot lift which is adequate for the needs of the research laboratories. The crane itself has a capacity of 20 tons.



These Timken Bearings Have Run 70 Times the Life of the Average Automobile

The pinion bearings in the 6 Westinghouse-Nuttall gear reduction units at the Washington Pulp and Paper Company have each rolled up the enormous total of over 2,338,000,000 revolutions, and a recent check-up shows that they are good for many millions more.

Loaded 100% of their Timken catalogue rating, they have averaged 6¼ days per week, 24 hours a day since they were installed in April, 1923.

The total distance traveled by each of these bearings is the equivalent of driving an automobile more than 3,500,000 miles, whereas the average automobile travels but 50,000 miles during its entire life.

A worthy tribute to Timken stamina! Don't you want this same unequalled endurance in *your* product? The Timken Roller Bearing Company, Canton, Ohio.

TIMKEN *Tapered Roller* BEARINGS

Oil Field Equipment and Supplies

FILTRATION OPERATION MADE EASY OF CONTROL

Minor changes in the design of the Vallez rotary leaf filter have made that device as efficient in the oil industry as the original machine has been in the sugar industry, according to the Goslin-Birmingham Manufacturing Co., which makes it.

As applied to petroleum refining, contact filtration comprises the intimate mixture of a fine decolorizing agent with the oil (light or heavy) and its removal by mechanical filtration. The decolorizing agent, generally a treated or untreated fuller's earth, is added to the oil and thoroughly agitated for a definite period of time, and at a definite temperature. During this period, the coloring matter in the oil is absorbed by the earth. The spent earth then is removed from the oil by mechanical filtration.

The filtrate obtained by this process is of uniform color from start to finish. The operation is quick and readily controlled. Exceptionally large total surface contact is obtained per pound of this fine earth and high decolorizing efficiencies are obtained.

The entirely closed operation of the Vallez rotary filter and its efficient performance adapt it to this class of work. The self-draining filter leaves are particularly designed for drying filter cakes containing volatile liquids. Unusually quick and effective drying, with little vaporization, has been attained consistently in plant operation, owing to this feature.

The practical method of replacing cloths in the Vallez filter appeals to oil refinery maintenace men. The cloths are not touched manually during regular operation, and therefore wear out uniformly. The entire filtering element is removed as a unit with a minimum shutdown time and replaced by a spare. The actual work of replacing the cloth is done away from the filter station entirely.

Positive control of the entire filtering cycle is realized. The cake can be built to any predetermined thickness with the reliable cake indicator. Mixture of cake with the liquid when discharging is reduced to a minimum.

DRILL GUIDE DESIGNED TO MAKE STRAIGHT HOLE

Straighter holes are said to be gained through the use of the drill guide made by the F. M. Crowell Co., Inc., Tulsa. The manufacturer makes the following assertions concerning this device:

"The drill guide will keep the bit straight while drilling sloping formations. It allows extra weight to be applied to the bit when coring soft sandy formations, thereby allowing forcing of the core into the core barrel before the circulation has time to wash it away. It will not ball up from rotation against the wall of the hole. It will keep the hole straight in all kinds of formation. It allows more weight to be placed on bit. It does not require more power from dragging the walls of the hole. It will start the hole straight below the casing shoe after drilling out the cement plug. It has ample clearance for the passage of cuttings and circulation between the vanes. It will keep the hole straight when using bits with short reaming blades. It has the vanes installed in such a manner that the guide will pass an obstruction that will allow for the passage of the bit. It requires no attention other than packing and oil. It will assist in preventing backing off while going into the hole. It does not rotate while drilling. It does no damage to the wall of the hole. It will side-track a crooked hole at the point of curvature."

NOTES ABOUT TRADE LITERATURE

Wilson-Snyder, Pittsburgh, Pa., is sending out a bulletin on crank and flywheel pumping engines for hot or cold oil high-pressure work, with the special feature of low steam costs.

A bulletin issued by the International Nickel Co., Inc., New York, describes the S. A. E. system of specifications for chemical composition and inspection standards for carbon and alloy steels.

Three bulletins are being mailed by the Landis Machine Co., Inc., Waynesboro, Pa., one on Landis stationary pipe, casing, drill pipe, line pipe and tubing dieheads for pipe threading and cutting machines; one on Lanco heads for automatic, semiautomatic and hand-operated threading machines, and one on the Landis 6-inch and 8-inch threading and cutting machines.

A broadside issued by the Erie Meter Systems, Inc., Erie, Pa., says the company has sold more than $1,000,000 worth of Erie meter pumps in six months.

The November number of Oxy-Acetylene Tips, published by the Linde Air Products Co., New York, is the one-hundredth issue of that publication. The growth of the magazine has kept pace with expansion of the oxyacetylene process.

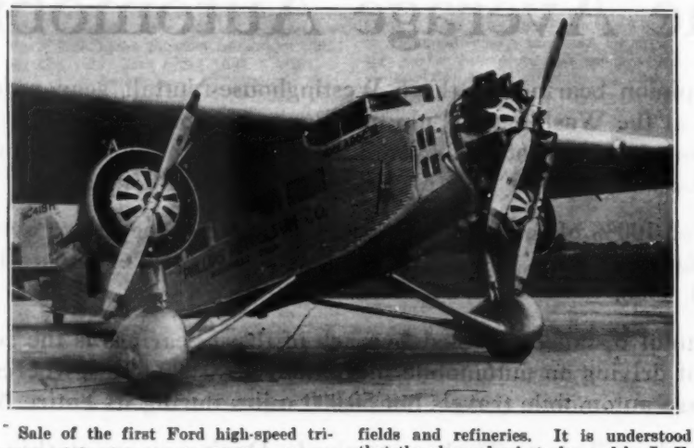
FOR PROMPT SNOW REMOVAL

The advantage of prompt removal of snow from platforms, runways, yards, etc., is so obvious that interest attaches to the announcement by the Clark Tructractor Co., Battle Creek, Mich., of a new implement for economical snow removal. This is the "Clarktor" snow plow, built on the "Clarktor" Tructractor chassis. The adjustable blade, always under the operator's control, has a renewable cutting edge of special hardened alloy steel and when lowered rides on two steel buttons which prevent the edge of the blade from striking minor pavement irregularities. The plow assembly is hung on heavy springs in the supporting chains. Road shocks are absorbed. The 82-inch blade cleans a path 74 inches wide.

CLUTCH GIVES SMOOTH START

The new "Hill-Pulvis" line of clutch-pulleys and clutch couplings being placed on the market by The Hill-Clutch Machine and Foundry Co., Cleveland, O., is stated to offer advantages in the starting and handling of heavy loads. They are automatic in pick-up and in release, and thus keep the load on the motor, gasoline engine or other driving unit within adjustable predetermined limits. Because of these features the Hill-Pulvis clutch is particularly recommended for direct-connected or belt drives operated by electric motors. Not only can the regular type of motors be used, but in many cases a decidedly smaller motor and less expensive switchgear are required. In belt drives, the saving through the use of lighter belting is an item.

HIGH-SPEED TRIMOTOR CLUB AIRPLANE FOR PHILLIPS



Sale of the first Ford high-speed trimotor club plane to the Phillips Petroleum Co., Bartlesville, Okla., was announced by W. B. Mayo, head of the Airplane division of the Ford Motor Co. The new plane, a veritable aerial yacht, is to be used by executives in Oklahoma, Texas, Utah, Colorado, Wyoming, and Mexico.

The first of these survey trips was to be started soon after the plane had been delivered at the home city of the company, executives headed by Frank Phillips, president, planning to spend two weeks visiting the company's fields and refineries. It is understood that the plane also had been delivered at the home city of the company, executives headed by Frank Phillips, president, planning to spend two weeks visiting the company's fields and refineries. It is understood that the plane also is to be used by L. E. Phillips, chairman of the executive committee, in traveling between Bartlesville and Kansas City, Mo., where he is a member of the board of the Kansas City Federal Reserve Bank.

The plane is of the new high-speed type, powered with three Wasp motors. It is capable of a top speed of more than 152 miles an hour. It is fitted like a yacht, having seven reclining chairs upholstered in red morocco, a divan, folding berth, kitchenette, a radio for obtaining stock market reports and a writing cabinet. It also carries a full equipment of canvas covers for the rug and for the seats, for use when, in emergencies, the plane is used to rush drilling crews or trouble shooters to oil fields or refineries.

DUNLAP NOW DISTRICT MANAGER FOR CLIMAX

Forrest B. Dunlap has joined the Climax Engineering Co., Clinton, Iowa, as district manager for Oklahoma, Kansas, Arkansas and Colorado, with headquarters in Tulsa. Mr. Dunlap went to Tulsa

Forrest B. Dunlap

in 1916 with the Bessemer Gas Engine Co. which he served many years as Tulsa branch manager. More recently he has been affiliated with Clark Brothers of Olean, N. Y.

The Climax Engineering Co. has aroused much interest in its heavy-duty, multicylinder gas, gasoline and distillate burning engines, ranging from 35 to 225 horsepower, designated as the Blue Streak, valve-in-head series.

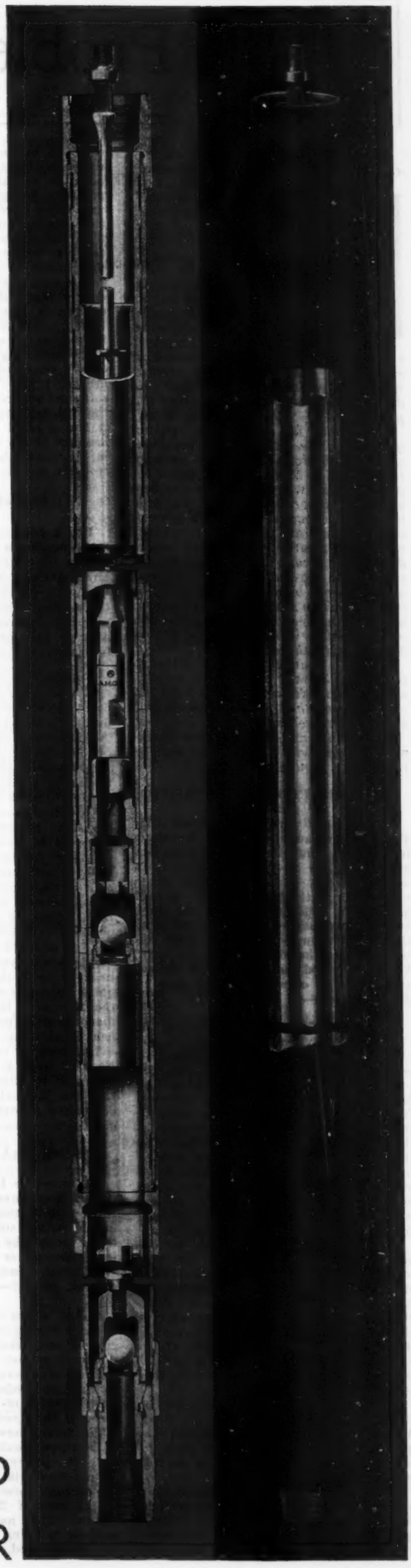
NORDSTROM WITH SUPERIOR

E. J. (Newt) Nordstrom, formerly purchasing agent for the Empire Gas & Fuel Co., in Bartlesville, Okla., and for several years in the bond business in Dallas, Tex., is returning to Oklahoma as special representative of the Superior Tube Co., Inc. Mr. Nordstrom for two years was in charge of the Superior company's sales in Texas. He has an intimate knowledge of the oil business and a wide personal acquaintance with the buyers of the officials of the industry. His headquarters will be in Tulsa. Superior Tube Co. is engaged in the distribution of oil country pipe, representing several of the large pipe manufacturers in the East. Hoyle Jones is president of the company and the general offices are at 1408 Philtower Building, Tulsa.

DULUX IS NEW PAINT PRODUCT

A new product, DuLux, is announced by E. I. du Pont de Nemours & Co., the result of research work to impart advantages of Duco to finishes of the paint and varnish type. It is stated that the product is based on a new vehicle or film-forming material exceptionally resistant to disintegration. Its drying time is short, reducing the time during which freshly coated surfaces are subject to marring by insects or dust. It is also unusually resistant to rain damage during the drying period. DuLux is now available for industrial uses, including the finishing of machinery, the coating of structural steel and other uses where resistance to weathering and corrosion is required.

BARNWELL PLUNGER FITTED IN "TOP COLLAR BOTH ENDS" PUMP



By locating the working valve at the bottom of the plunger, oil emulsion and "gaslocks" are eliminated. This plunger is also adaptable to an Axelson "Regular" Liner Pump with Regular or Ritter standing Valve. The top of the Barnwell Plunger is open, allowing free passage of oil into the fluid column. The upper lip of the plunger is internally beveled to an acute edge. This structural factor permits a slight expansion of the plunger on the upstroke. A perfect fitting surface is thereby formed with a "wiping" end that removes all sand from the liners, preventing abrasion. Furthermore, on the down stroke of the plunger, frictional resistance is decreased.

The Axelson Catalog No. 110 gives full information.

Axelson Manufacturing Co., Ltd.
P. O. Box 337, Los Angeles
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New York City, 30 Church St.
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THERE IS NO ECONOMICAL SUBSTITUTE FOR QUALITY

AXELSON

"Top Collar Both Ends" Pump With BARNWELL PLUNGER

Field Problems and Their Solution

EDITED BY THOMAS F. SMILEY

In order that men connected with the drilling, producing and transporting branches of the petroleum industry may procure quickly a solution of many problems confronting them from time to time in their work, The Oil and Gas Journal has arranged with leading engineers and other recognized authorities to answer questions submitted by readers of this publication pertaining to the work of drilling and producing crude oil and transporting this product.

Everyone is invited to submit questions freely. These questions will be submitted to proper authorities by Mr. Smiley, who edits the page, and answers, based on the best available information, will be published. Each question should give as much detail as possible, especially where it relates to matters where depths of sands, types of sands and operations on adjoining properties would have a bearing on the problem involved. The source of all questions will be considered as confidential and only initials will be published in connection with the question.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or practices which are improvements.

In case an immediate answer is important, one will be given by mail if the writer requests it.

LESSONS FROM WILD MARY

Did the well in the Oklahoma City Field which caused so much trouble a few months ago give the oil fraternity any new ideas as to shutting in wells of that kind? I mean the well which was known as the "Wild Mary." I read quite a lot about the well at the time, but did not happen to read just how they got it under control. How did they succeed in shutting in the well? Was the method something which the engineers got up or was the trick done by plain oil men?—L. E. D.

The Indian Territory Illuminating Oil Co. No. 1 Mary Sudik well came in out of control because of a combination of conditions that were unusual for the practice followed in drilling, casing and bringing in this well was not different from that used in many other wells in the Oklahoma City pool, but because of the character of the sand and the location of this well on the structure it blew in with such violence that connections at the top of the well were cut away by the sand accompanying the oil and it was wild for several days while control devices were made and applied.

It was brought under control by the use of a special "die nipple" that was set down over the end of a short joint of seven-inch casing that formed the upper end of the producing string. This die nipple cut threads in this drilling nipple and permitted the operators to anchor the connections above the drilling nipple in such a way as to permit them to hold the high pressures encountered in this well.

A full story of this operation is told in a special article in the April 10, 1930, issue of the Oil and Gas Journal and this same method has been applied since to other wells that came in out of control in that field.

Credit for devising the equipment that was successful in controlling this well is due to both the field men for the various operating companies in the Oklahoma City Field and the engineers for the oil company owning this well, and while it was not entirely new or untried its application to this particular well gained publicity because at that time the well was front page copy for newspapers in this country and in many foreign countries and anything pertaining to its control was followed with much interest by the public.

The well was drilled into the up-turned end of the Wilcox sand formation that apparently had been previously exposed to the weathering effect of the elements in long past geological ages and due to this weathering the sands were not as closely cemented as they were at points deeper in this Wilcox formation. This soft sand was carried out of the hole with the high velocity flow of gas and oil and it had a rapid cutting effect upon connections at the well head. This resulted in the valves that were installed to control the well being cut away.

DIAMOND DRILL HOLES

For a diamond drill hole to be drilled to a maximum depth of 3,000 feet in testing for oil in a wildcat field is there any particular advantage in a hole bottoming at 4 inches over a 3-inch hole? In the event of discovery of oil would it be practical to ream out such small holes or more satisfactory to drill a new hole for producing?—A. D.

No apparent advantage is to be gained by the use of a 4-inch hole over a 3-inch hole for wildcat work if this work is done primarily to get cores of the formations.

In the event of discovery of oil or gas in the smaller diamond drilled holes it would be more satisfactory to drill a new hole with cable or rotary tools than to try to ream the small diamond drill hole.

If this diamond drill hole encounters gas it is possible that this gas can be produced in sufficient quantities to furnish fuel for the drilling of the regular well. If fuel from such a source is available it would certainly be cheaper then to drill a well using standard equipment rather than try to ream or enlarge the diamond drill hole.

Even if the 4-inch hole is drilled into a producing formation it has been found in some fields that these small wells require frequent cleaning and because of the fact that they are completed with diamond drill outfit they present problems in cleaning.

If standard tools are moved in for cleaning work it means a complete new set-up. If the diamond drill outfit is used to clean the well it means the expense of holding an expensive outfit in reserve during the periods between cleanouts.

MEANS BRAKE HORSEPOWER

In an article I read in your magazine it said a compressor was 200 B.H.P. I suppose this means British horsepower, but I am not sure, and if it does mean that I would like to know if it is different from horsepower as that word is used right along. Just how is horsepower calculated, please?—E. N. N.

B.H.P. means brake horsepower, which is the actual power given out by an engine or other motor calculated from (a) the force exerted on a friction brake or absorption dynamometer acting on the flywheel or brakewheel rim, (b) the effective radius of this force and (c) the speed of the flywheel or brakewheel.

The term "horsepower" was originated by Matthew Boulton and James Watt to state the power of their steam engines. By practical trial it was ascertained that the average horse could work constantly at the rate of 22,000 foot pounds per minute. That number was increased by one-half in fixing this unit of power now universally used.

WEIGHT CARRIED ON BIT

There seems to be general agreement that the weight carried on the drilling bit—that is, the weight in pounds per square inch—has much to do with the straightness of the hole in rotary drilling, but I never have seen any statement from any engineering authority to indicate what the right weight or approximately the right weight is. If you can offer any information on this subject I would be glad to get it.—O. S. E.

When the problem of drilling straight holes was receiving special consideration about two years ago much work was done to determine cause of deflection of hole from the vertical and a resume of data gathered by the Mid-Continent District of the A. P. I. Division of Production was given in an article in the June 6, 1929, issue of The Oil and Gas Journal.

This report was the result of a tabulation of opinion of different drillers and production engineers as obtained from answers to a questionnaire and it was found that recommendations were for weight on the six-inch bit to vary from 7,000 pounds for shale up to 12,000 pounds for limestone.

Weight indicators are now quite generally used on rotary-drilled wells and tabulations of recommended weights for roller and cone type bits are given for all types of formations ranging from sticky shale, through sand rock, hard lime and even for granite and basalt.

These recommended weights vary from 2,500 pounds per square inch for 4⅜ and 4½-inch bits drilling in sticky shale up to 37,500 pounds for 24-inch bits drilling in granite or basalt, with roller bits, and for 2,600 pounds for cone bits 3⅞ to 4⅛-inch sizes in sticky shale up to 37,700 pounds for 22⅛ to 25-inch bits in granite and basalt.

Speed of rotation is also given as well as gallons of mud fluid required per minute and size of drill stems recommended.

Through long practice the driller is not now inclined to read his indicator in pounds per square inch but rather to consider it as so many "points" but in actual practice the "points" indicated on the gauge are translated into "pounds per square inch pressure" at the bottom of the hole and experience has taught the driller the relation between "points" and "pounds" so he does not go through the calculations required to compute pressure at hole bottom.

Manufacturers of rock bits and indicators have prepared tables for ready reference for all interested in this problem and they can be obtained from the manufacturers upon request.

The following figures taken from extensive tables giving the maximum drilling weights in pounds recommended for roller bits, rocks and core bits may be of use to you:

ROLLER BITS

Bit size—	Sticky shale	Sand rock	Hard lime	Granite and basalt
6⅜ to 6⅝	3,600	5,200	6,700	8,500
8⅝ to 9	5,200	7,500	10,000	12,200
12¼ to 12¾	7,700	11,300	15,000	18,700
18¼ to 19⅝	12,200	18,000	24,000	29,700

ROCK AND CORE BITS

6¼ to 6⅝	4,250	6,500	8,500	10,400
8⅝ to 8¾	5,500	8,500	11,000	13,600
12⅝ to 13¼	8,250	12,700	16,500	20,400
17¼ to 19¼	11,800	18,200	23,600	29,100

WHY WAS IT CALLED THAT?

FLASH TEST

The flash test of an oil refers to the temperature to which it must be heated at a specified rate in order to liberate sufficient vapor to ignite momentarily when an open flame is applied. In making this test the oil is gradually heated and as its temperature rises a flame is passed over its surface at frequent intervals. As soon as a flash of lighted vapor occurs the temperature of the oil is taken as its flash point.

CONCRETE FOR TANK BOTTOMS

Corrosion of tank bottoms is a source of heavy loss in this region. They often become useless in less than two years o so. I have used a half dozen different kinds of paint and so on that were recommended, but none of them has done much good. I have wondered whether it would be practical to use concrete on the bottom of the tanks. Would concrete bond with the side of the tank so that it would form a thick lining as far up as the corrosion eats into the steel? If that wouldn't work, I have considered just pouring concrete in and covering the whole bottom with a layer of concrete as thick as needed.—K. O. N.

In combatting corrosion troubles the field man has resorted to many devices and materials and among others has used concrete to repair tank bottoms and even to build concrete tanks complete.

Concrete without some special coating is acted upon by the crude oil and will deteriorate rather rapidly and it has been found rather unsatisfactory for use in making tanks. However, when special care has been taken to finishing the surface good tanks can be made by this method and there are several in use, but to treat the concrete in this special way adds materially to the cost and therefore is not common practice.

If the bottoms of your bolted steel tanks are badly corroded it is possible for you to pour a mixture of neat cement over the old steel bottom and permit it to dry. It will then be found that there is a space around the periphery of this cement bottom that has been formed by the cement shrinking away from the steel. If a thin cement grout is then poured into this space between cement bottom and steel sides of the tank a complete seal will be made.

In operating the tank it is well to keep about 6 inches of water over the cement bottom at all times as this will prevent the oil from coming in direct contact with the cement but it will not prevent B. S. from accumulating upon the bottom and this is sometimes very deteriorating to cement also.

This method of repair is at best a make-shift and is to be classed with any kind of material poured over an old corroded steel bottom but it may serve long enough to make it worth the expense if the lease is an old one and new tankage is not available.

MEAN DIFFERENT THINGS

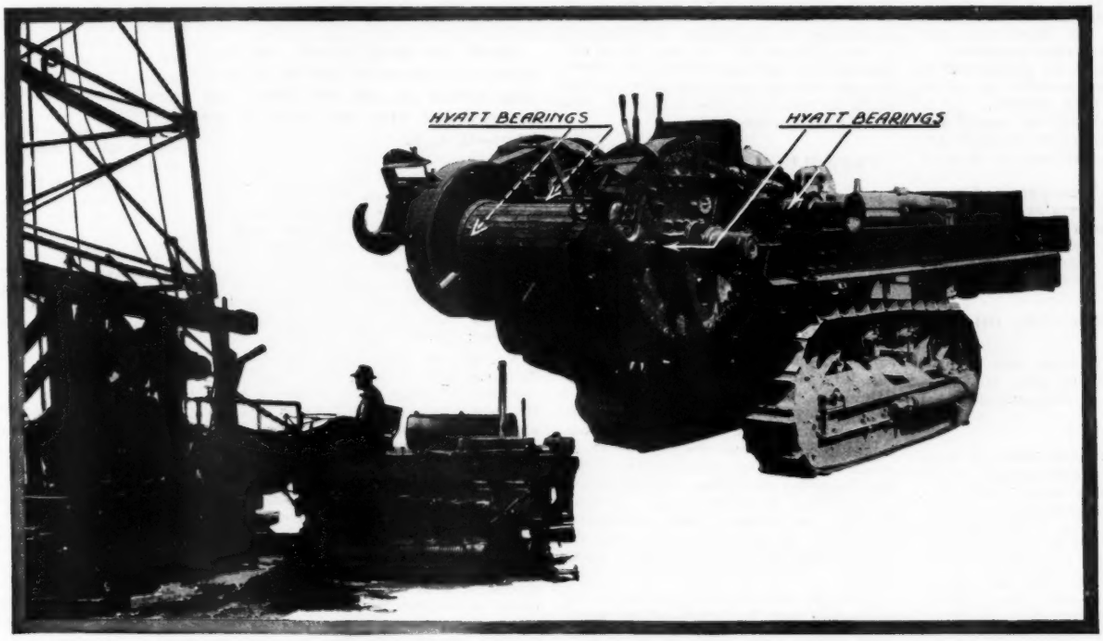
Do gas-oil ratio, reservoir gas-oil ratio, circulated gas-oil ratio and recovery gas-oil ratio all mean the same thing? If they do not, please tell me the meanings of these different terms.—O. L. O.

Each of these terms has its own distinctive meaning. Gas-oil ratio is the number of cubic feet of gas produced by a well for each barrel of oil. Reservoir gas-oil ratio is the number of cubic feet of gas per barrel of oil originally in the reservoir. Circulated gas-oil ratio is the number of cubic feet of gas introduced into the well for gas-lift operations per barrel of oil lifted. Recovery gas-oil ratio is the number of cubic feet of gas produced from the reservoir per barrel of oil.

No job too big for Hyatt equipped Winches

IN WINCHES, free movement of heavy parts is materially aided by the frictionless properties of smooth rolling Hyatt bearings.

Heavy pulls, day after day, are operating demands they must meet—and do without perceptible strain. For example, the drum of this Hyattized 6,000 pound Allsteel Winch, giving a single line pull of 20,600 pounds, may be freely turned with the thumb and forefinger of one hand.



Model SA-30 Oil Field Winch, built by the Allsteel Products Mfg. Co., Wichita, Kansas, showing where Hyatt bearings are used.

The added advantages of protection against wear and replacement, freedom from constant attention, power-saving and ability to keep equipment steadily employed have justified the universal adoption of Hyatt Roller Bearings for exacting uses in the oil field.

Builders and users are of a single mind that Hyatts can be depended upon to fit the job.

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HYATT
ROLLER BEARINGS
PRODUCT OF GENERAL MOTORS

Technical Questions Answered

BY CHARLES K. FRANCIS, PH.D., TECHNICAL EDITOR

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with the marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible so as to assure a satisfactory answer.

All inquiries should be signed and if other than the given initials are to be used please indicate the desired letters.

Questions involving patented processes, intricate formulas and calculations and estimates of costs, for obvious reasons, cannot be answered. The replies will appear on this page within a reasonable time.

STABILIZED CRUDE OIL

We would like to know just what is stabilized crude oil and what method is used for preparing or obtaining this kind of oil?—F. D. C.

It is well known that there are large losses of the more volatile portions of the petroleum produced in the different fields of the world. These losses have been estimated to be from 3 to 7 per cent and numerous schemes are in use to reduce this loss. Among the important of these are: All-metal tanks, insulated tanks, sprinkling the tanks with water, insulation, water tops, floating roofs, breathing to gas holders, and partial distillation or stabilization of the fresh crude oil.

A large part of the world's petroleum is produced in sections where the atmospheric temperatures are high and where these temperatures are the extreme the loss on storage is exceptionally great. The Anglo-Persian Oil Co., operating in south Persia, has to contend with shade temperatures between 80° and 120° F., with an extreme sun temperature of 175° F. The engineering department of this company has described their method for stabilizing the crude oil in The Oil and Gas Journal, March 6, 1930, Page 118. The following has been extracted from this article:

"Both method and plant are extremely simple, the procedure being to remove the gas from the oil immediately it is received. The gas evolved is stripped of its gasoline and the latter stabilized, after which it can readily be held without notable loss. That portion of the gas-free crude which is later required for export is pumped to storage to await shipment while the remainder goes straight into the refinery ring main which feeds the distillation units. As it is desirable to ship as volatile an oil as can safely be handled, the export crude is degassed to the least possible extent consistent with low loss during transit. Normally about 2½ per cent of the oil by weight is removed in the process. The procedure is clearly illustrated in the diagrammatic flow sheet.

"The plant consists of six towers or desorbers—so-called because their function is the reverse of absorption. Four of these towers handle the refinery crude while the other two deal with the oil required for shipment. All are 60 feet high by 6 feet in diameter and are packed with steel turnings. The main pipe line from the oil fields delivers the crude to pumps which pass it through steam heaters into the tops of the towers, all of which operate in parallel. Heaters of the multitubular type are used, the temperature required being 120° F. in summer and 140° F. in winter. It will be seen that in summer hardly any steam is required as the oil enters the heaters at 100° F. The desorber towers are held under a vacuum of 15 inches of mercury so that the preheated crude disengages its gas as it flows down the packing and out at the bottom of the towers. Here it is picked up by centrifugal pumps and transferred to the refinery or passed through coolers to the tank farm according to whether it is destined for distillation or shipment."

Steel turnings have not been found satisfactory for packing material in a tower for use with oil containing hydrogen sulphide so something else should be used for the high sulphur oils.

PETROLEUM PRODUCTS FROM FATS

Have you information relating to the possible utilization of fats or the fatty oils for the manufacture of a motor fuel similar to gasoline?—G. C. W.

The early research of Engler, about 1888, indicated that some of the gasoline hydrocarbons were produced when various fats, and especially the fat from fish, were distilled under vacuum. This work is frequently quoted as possibly indicating the organic origin of petroleum. Engler produced from the fish fat an oil which upon refining with sulphuric acid and fractional distillation yielded several hydrocarbons including pentane, hexane, heptane, and octane. Other investigators have since produced oils resembling petroleum from fats both by distilling under pressure and without pressure.

A recent reference to this form of investigation may be found in the Petroleum Times, September 11, 1926, page 452, describing an article from petroleum, by Marcusson and Bauerschaefer, who mention the experiments of Mailhe.

Mailhe heated linseed oil vapors up to 600-650° C. in contact with copper-magnesium or copper-alumina, and obtained, beside heating and illuminating gases, a yellowish distillate with a weakly acid reaction and a boiling point range of from 40° to 250° C. This distillate, when freed from saponifiable acids by alkali, gave a residual oil the fraction of which boiling between 70° and 150° was hydrogenated at a temperature of 180° C. in the presence of nickel. The hydrogenated product was a colorless combustible oil with an agreeable odor and contained the aromatic hydrocarbons, benzol and xylol. This fractionated into a light product of the gasoline range with a specific gravity of 0.76, and a burning oil with a specific gravity of 0.86.

Their own experiments, using linseed oil and tallow as the raw material, consisted of mixing with these about one-fifth of the weight of siliceous earth (kieselghur) or ordinary salt, and heating this in a sand bath for about 20 hours. The vapors passed into a reflux condenser by which the temperature was kept from becoming unduly high by the return of the condensed material. The maximum temperature was not over 300° C.

After a short time the liquids became of a dark green color, due to the formation of fluorescent heavy hydrocarbons.

The reaction products were separated from the catalyst and freed of saponifiable substances by alkali.

The products consisted of saturated and unsaturated hydrocarbons with some alcohol. The consistency of the product from linseed oil was viscous, while the product obtained from tallow was more salve-like, but both showed green fluorescence. The initial distilling of the tallow product was about 150° C., and up to 300° C. 18 per cent of petroleum passed over, leaving a residue which was considerably more viscous.

Mailhe believed that in lands rich in vegetable oils and at the same time poor in petroleum, it might be possible to establish an artificial petroleum industry based on the use of vegetable fats as raw material.

MERCAPTAN FOR ODORIZING GAS

Would you kindly describe the character of the mercaptan suitable for odorizing natural gas and such natural gas products that have very little if any odor?—G. L. T.

A distinguishing odor is a desirable property for any gas, and especially natural gas, or the natural gas products, propane and butane, that are used as domestic fuels. The United States Bureau of Mines has investigated the use of ethyl mercaptan for the purpose of detecting leaks in natural gas distributing systems. The investigation is reported in report R.I. 3,007, June, 1930.

Natural gas is practically odorless and therefore lacks the property of indicating significant leakage by the sense of smell, the means most widely used by gas employes and consumers for detecting leaks of the odorous types of fuel gases. Ethyl mercaptan has been found to be a practical warning agent for the detection of leaks. It is distinctly malodorous, its odor having been characterized as that of a mixture of garlic, onions, decayed cabbage, sewer gas and hydrogen sulphide. The odor of ethyl mercaptan is detectable in dilutions as high as one part etheyl mercaptan in 1,000,000,000 parts of air and will give warning to normal persons in concentrations of one part ethyl mercaptan to 15,000,000 parts of air or 0.01 pound per 1,000,000 cubic feet of air.

The odorizing of natural gas with ethyl mercaptan has been found to be a practical means for detecting leakage and a much cheaper means than usual inspection methods. It is by virtue of its disagreeable odor that it quickly attracts attention and response when used as a warning agent. Concentrations of 7.7 to 9.3 pounds of ethyl mercaptan per million cubic feet of gas were found very effective in indicating house leaks. It is thought that half that quantity or even less would be ample to indicate leaks of sufficient magnitude.

Ethyl mercaptan, C_2H_5SH, is an organic sulphur compound, a liquid having a density of 0.840 specific and 37 A.P.I., boiling point 94.5° F., melting point minus 185.8° F., practically insoluble in water but freely soluble in gasoline and petroleum.

The authorities state that the toxicity may be judged from the data found for butyl mercaptan, 170 pounds of which per 1,000,000 cubic feet of air will kill dogs in 30 minutes and 690 pounds per million cubic feet will kill mice in 10 minutes. Ethyl mercaptan is thought to be less toxic, so that the quantity in air required to give warning to persons, 0.01 pound per 1,000,000 cubic feet of air, is about 1/17,000 the quantity required to kill dogs after 30 minutes exposure.

During combustion ethyl mercaptan may be converted to carbon dioxide, water and sulphur dioxide, common products of the combustion of gas.

FATS AND FATTY OILS FOR LUBRICANTS

Could you give me a list of the fats and non-mineral oils that are used for lubricating purposes? Are such fats and oils considered good lubricants when compared with mineral lubricating oils?—N. Y.

There are many fats and oils of both vegetable and animal origin that are of value as lubricants but the tendency of these to become rancid and produce organic acids prevents their being used in the pure form. They find use as blends with mineral oil and in the preparation of grease.

Some of the more important fats include: Tallow of numerous grades, horse fat and wool grease. The acids, stearic, oleic, and palmetic, largely produced from animal fats, are used in compounding greases and to some extent in compounded lubricating oils. Lard oil, tallow oil, neatsfoot oil, sperm oil, the fish oils, cod, porpoise, and menhaden, are all used as lubricants.

The fixed or fatty oils include castor oil, rape oil, cottonseed oil, olive oil, palm oil, peanut oil, rosin oil, and cocoanut oil.

All of these oils are to be found on the market in varying degrees of purity and are used for many different purposes. An important quality is the quantity of free fatty acid that may be present; in some instances this may amount to 60 per cent, but a compounded oil or grease should not contain more than 4 per cent free acid.

It is not possible to compare these oils as a class with mineral oil, because the lubricating value will depend on the kind of service under which the oil is used. Under some circumstances, especially where a soluble oil is required, a pure fatty oil must be used. However, in general admixture with mineral oil is practiced. A properly refined mineral oil has the advantage that it is free from acid.

STANAVO SPECIFICATION FOR GASOLINE

What is meant by the Stanavo specification for gasoline? If you can furnish the details of this we will appreciate the kindness.—T. E. C.

The Stanavo Specification Board is made up of representatives from the Standard Oil Company of California, The Standard Oil Company, Indiana, and the Standard Oil Company of New Jersey.

The Stanavo gasoline specification is for a high grade fuel to be used in aircraft. The important specifications relate to knock rating and volatility, as determined by the distillation test.

The anti-knock rating shall not be poorer than that of a mixture of 74.5 per cent iso-octane and 25.5 normal heptane, by volume, when tested in the Ethyl Gasoline Corporation's Series 30 engine with a jacket temperature of 300° F.

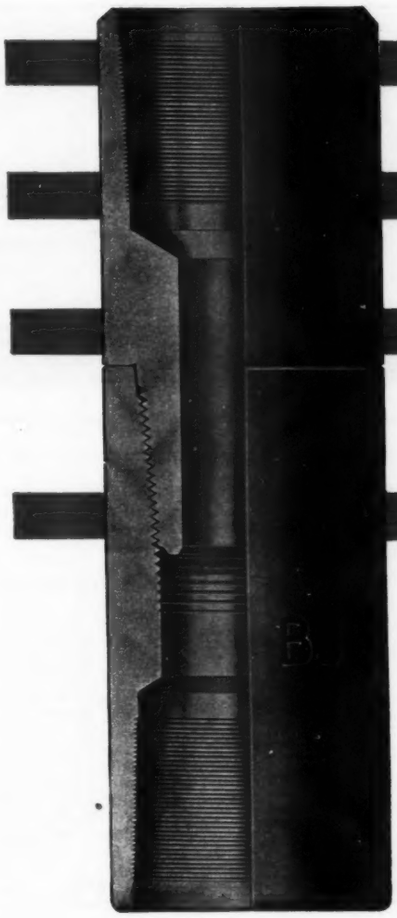
The required volatility is indicated by the following maximum distillation temperatures:

Per cent off	Temperature F°
5	124
10	146 to 164
50	203
90	257
96	302
Max.	329
98	Recovery

Low gum content, freedom from acid, and low sulphur percentage are required as in all aviation gasolines. The gum content and corrosive sulphur are controlled by the copper dish test; that is, no gray or black coloration shall be formed when 100 cc. are evaporated.

No crystals or solid matter shall be formed at 58° below zero F. The gasoline must be free from water and suspended matter.

from Start to Finish O.K.



Nickel or High-Carbon steel forgings are shaped under a massive press-forge, into rough form for machining. ✓

These forgings are then precisely machined with specially designed equipment, operated by skilled machinists. ✓

Pyrometer controlled electric furnaces guarantee accuracy in heat treatment and annealing, and insure exceptional resistance to torsional and tensile strains, without being brittle. ✓

Every Tool Joint is subjected to the closest inspection and must conform to rigid micrometer and Brinell specifications. ✓

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Eight 1000-Bbl. Maloneys at Oklahoma City.

Maloney Vapor-Pressure Tanks are Designed for Economic Storage

12-gauge or heavier Keystone Copper Steel—half-inch bolts—heavy 2x2 angle ties and reinforcements—valves set at 16 oz. pressure and 2 oz. vacuum—and high grade aluminum paint—are all factors in helping you to make more money.

"Alone in Quality"

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Tulsa, Okla., U.S.A.

Distributers at All Principal Petroleum Points

Maloney A.P.I. Bolted Steel Tanks conform to A.P.I. dimensional standards and carry the official A.P.I. monogram.

MADE OF KEYSTONE AMERICAN COPPER STEEL

MALONEY PATENTED BOLTED COPPER-STEEL TANKS

MALONEY
ALONE

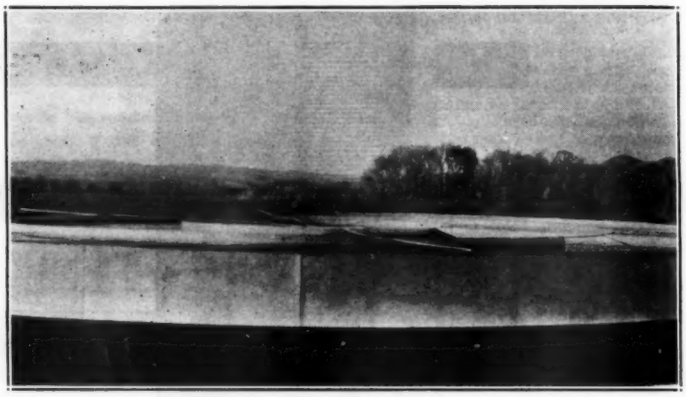
REBUILD 55,000-BARREL TANK FOR WATER SETTLING STORAGE

Four rings and the bottom of an old 55,000-bbl. crude storage tank is being successfully used as a water settling tank at the Parco, Wyo., refinery of the Producers and Refiners Corp. In addition to the requirements of the 8,000-bbl. refinery, the corporation furnishes water for the town of Parco, a majority of whose residents are employes at the refinery.

Two rings and the bottom of the tank were used for the water tank. This gives a capacity of approximately 750,000 gallons. Two more rings of the tank were used in building baffles within the tank to form a labyrinth. As shown in the pictures the baffles are arranged so that the water entering the tank first passes around the outer ring, then to a center ring and finally to a ring in the middle of the tank from which suction is taken.

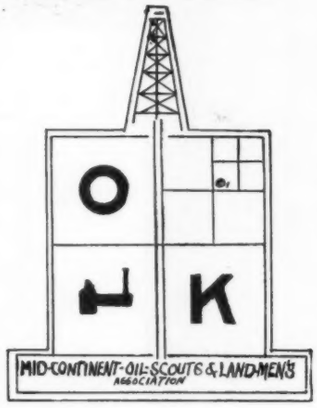
The water is obtained from the North Platte river. The water from the river which carries considerable sediment is treated with alum, sodium aluminate and chlorine. The water is charged to the settling tank through a mixing drum by means of a centrifugal pump. From the settling tank the water is pumped a distance of six miles to the plant.

The water requirements of the refinery and town vary from 500,000 gallons daily in winter to 1,500,000 gallons in summer. The sediment settles out of the water before entering the center circle from which the supply is obtained. Provision is made to draw off the sediment and clean the tank when necessary.



Water settling tank at Parco, Wyo., refinery of the Producers & Refiners Corp., showing arrangement of baffles to aid in settling operation.

OIL SCOUT EMBLEM



Emblems are being installed on all of the oil scout cars in the territory covered by the Mid-Continent Oil Scouts and Land Men's Association which covers the states of Oklahoma and Kansas. The cars driven by oil scouts will have the tags attached to both front and rear. The tags will be for identification by other scouts and will be in two colors, red and black, and may be obtained from the district directors of the organization or from the chairman of the board of directors in Tulsa. Officials of the organization worked out the design and have requested that each scout provide himself with two and place them on his car.

MONTANA I.P.A. OFFICERS

William M. Fulton has been chosen president of the Independent Petroleum Association of America, to serve during the coming year. Other officers chosen were: W. E. Rice, vice president; T. L. Murphy, secretary; R. P. Jackson, treasurer and Lee Thurston, assistant secretary. The board of directors, in addition to Messrs. Rice and Murphy, includes C. H. Brown, L. B. O'Neil, L. R. Hannah, A. E. Crumley and J. H. Stevenson.

PARCO ENTERS CANADA

PARCO, Wyo., Nov. 1.—The Parco Oil Co., subsidiary of the Producers and Refiners Corp., has been organized in Calgary, Canada, John Fertig, vice president and general manager of the P. & R., announced here.

Mr. Fertig, whose office is in Independence, Kan., stopped here en route home from an aerial trip to Canada.

He said the new company was organized to acquire leases and petroleum reserves in Canada.

The Parco Oil company is owned jointly by the Producers and Refiners and the Prairie Oil and Gas Co.

R. E. Wertz, formerly of Parco, has been designated vice president and general manager of the new company.

NEW RUSSIAN FIELD

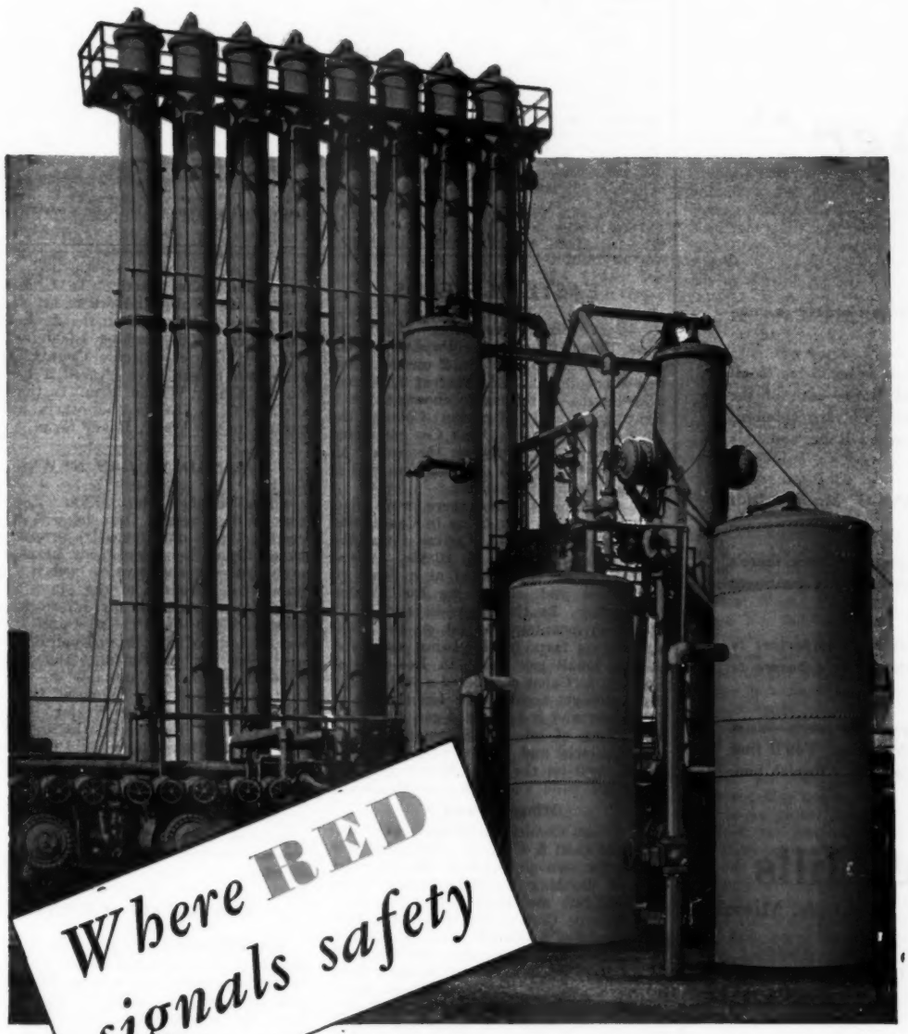
Preparatory work is being carried on in the Temir district of eastern Kazakstan, Russia, with a view to penetrating the deep oil layers, according to advices to Amtorg Trading Corp. In Dzharkine-Agach, in North Central Kazakstan, an important oil horizon has been discovered at a depth of 800 meters. In the opinion of some geologists, the report states, the deposits of oil in this region are richer than those of either Baku or Grozny.

THE PROBLEM OF OIL

The Problem of Oil, by Christopher T. Brunner, is an interesting illustrated book of 231 pages dealing with the distribution, industrial, and domestic uses of petroleum products. The organization and operation of the commercial units are described with particular reference to the British Isles. It is published by Ernest Benn, Limited, 154 Fleet street, London, at 12/6.

Worth Erecting... *worth* Protecting *with*

DUTCH BOY RED LEAD



LITHARGE of correct physical character and extreme chemical purity is a necessity in oil-refining. Such litharge is made by the makers of Dutch Boy Red Lead and Dutch Boy White Lead. You can always rely on its unvarying uniformity. Our nearest warehouse can give you quick shipment.

NATIONAL LEAD COMPANY

New York, 111 Broadway; Buffalo, 116 Oak Street; Chicago, 900 West 18th Street; Cincinnati, 659 Freeman Avenue; Cleveland, 820 West Superior Avenue; St. Louis, 722 Chestnut Street; San Francisco, 2240-24th Street; Boston, National-Boston Lead Co., 800 Albany Street; Pittsburgh, National Lead & Oil Co. of Penna., 316 Fourth Avenue; Philadelphia, John T. Lewis & Bros. Co., Widener Building.

LARGE iron and steel structures exposed to the elements—agitators and tanks, for instance—present a problem to engineers and others responsible for their proper maintenance. The larger the investment, the greater the possible loss through depreciation and the greater the need for the best protection modern science can provide.

Pure red-lead paint is recognized as the most effective barrier to depreciation in metal structures. It adheres tenaciously to iron and steel surfaces. It *seals out* corrosion—prevents moisture and other destructive agents from getting at the metal.

By specifying Dutch Boy when purchasing red lead, you are assured of obtaining a fine, uniform, highly oxidized pigment—a paint material that has the endorsement of engineers and technical men in many industrial fields.

Dutch Boy Red Lead is available in two forms—paste and liquid. The latter—ready for the brush—is supplied in six colors—natural orange-red, light and dark brown, light and dark green, and black. The paste is available in natural orange-red and can be shaded to dark colors.

Drake—

with his ancient methods wouldn't get far today in the Oklahoma City Field, would he? Without present day drilling methods made possible chiefly through improvements in Drilling Machinery and equipment, it would be impossible to reach present oil-producing depths.

But have you ever thought about Manila Rope "in terms of Drake"? Ever occurred to you that the Untreated Manila Cordage of today is quite the same as in Drake's time—no improvement? Hard to believe but it's true nevertheless; but many in the oil fields have, in recent months, found that

"AMCO"
The
"All-Weather"
Rope

represents the outstanding improvement made in Manila Cordage in hundreds of years.

Made only of high grade, long, tough pure Manila Fibre, it conforms to all requirements of A.P.I. specifications. It is a Treated Rope—each of the thousands of fine fibres being carefully processed prior to yarn spinning. "AMCO" is not loaded—it *weighs no more* than Untreated Rope, and it is not greasy.

Waterproofed?—As nearly so as rope can be made. "AMCO" Manila "sheds water like a duck's back."

"AMCO" being rot-proof, is the safest rope for all purposes since there's no chance of serious damage due to dry-rot, etc. This rot-proof treatment makes the rope last longer.

Don't judge a rope by its strength when new—isn't it more important to consider what load it will take after several months storage or exposure to the elements?

"AMCO" is being imitated by many; that's a sure sign it has merit—insist on the genuine rot-proof Rope—always put up in Green Burlap. You'll find a label of identification in each coil. If your Supply Store can't furnish you, write direct to—

St. Louis Cordage Mills

Eleventh & Soulard Streets St. Louis, Missouri

Branch of

AMERICAN MANUFACTURING COMPANY

Noble and West Streets Brooklyn, N. Y.

Tulsa Representative:

SAM REDIC, 2220 E. Seventh Street

Write for list of distributors.

"AMCO"— The "All-Weather" Rope

GULF COAST PORT SHIPMENTS, JUNE AND JULY

Company, port—	REFINED Coastwise June	Coastwise July	Export June	Export July
Standard Oil Co. (La.):				
Baton Rouge	867,647.00	668,949.00	769,223.00	1,130,057.00
The Texas Company:				
Port Arthur	1,212,575.00	1,122,905.00	415,274.00	394,230.00
Gulf Refining Co.:				
Port Arthur	2,142,530.29	2,136,118.91	262,359.09	199,097.25
Magnolia Petroleum Co.:				
Beaumont	1,741,640.52	*1,233,448.14	.....	.....
Humble Oil & Refg. Co.:				
Baytown	1,641,385.27	1,554,946.60	1,733,214.58	1,617,394.75
Atlantic Oil Prod. Co.:				
Atreco	131,594.27	90,756.35	.....	.....
Pure Oil Company:				
Smith's Bluff	575,477.85	461,490.56	.....	.....
Total—Refined	8,312,850.20	7,268,614.56	3,180,070.67	3,340,779.00
	CRUDE Coastwise		Export	
Standard Oil Co. (La.):				
Baton Rouge	125,534.00	273,291.00	56,309.00	.....
The Texas Company:				
Port Arthur	81,307.00	113,905.00	.....	.....
Gulf Refining Company:				
Port Arthur	255,500.28	435,342.49	.....	.....
Magnolia Petroleum Co.:				
Beaumont	798,971.39	* 636,723.17	.....	.....
Humble Oil & Refg. Co.:				
Texas City	669,697.00	574,279.00	.....	.....
Ingleside	235,923.00	70,506.00	.....	.....
Baytown	118,783.00	239,155.00	.....	.....
Harber Island	2,232,849.00	1,976,139.00	.....	.....
Neches	60,276.00	.....	.....	.....
Atlantic Oil Prod. Co.:				
Atreco	786,656.92	913,339.01	.....	.....
Beaumont	77,049.24	57,032.54	.....	.....
Pure Oil Company:				
Smiths Bluff	694,653.70	567,706.44	.....	.....
Sun Oil Company:				
Sabine Pass	768,471.00	1,039,753.00	.....	.....
Total—Crude	6,905,671.43	6,897,222.65	56,309.00	.....
Total Shipments	15,218,521.63	14,165,837.21	3,236,379.67	3,340,779.00

*Magnolia Petroleum Company makes no distinction in reports between coastwise and export shipments.

EASTERN FIELDS

(Continued from Page 72)

In Boone County the Pond Fork Oil & Gas Co. completed No. 2 on the Yawkey Freeman Coal Co. tract at 2,266 feet and in the Berea sand showing for a light gasser. In Braxton County the Philadelphia Natural Gas Co. completed a test well, No. 7,488, on the Sarah M. See farm to a depth of 2,659 feet and it was dry in all formations.

In Calhoun County there were four completions, the best being in Center district on the John D. Collins farm, the test drilled in by W. H. Bickle. It was drilled in the Injun sand at a depth of 1,802 feet and is showing for 750,000 feet a day. In the same district F. F. McIntosh completed a test on the Hannah Jarvis farm in the Injun sand and it is a small gas well. In Lee district Godfrey L. Cabot completed a test on the S. J. Roberts farm in the Injun sand at 1,920 feet and it is a light gas well with a showing of oil. In Sherman district, C. B. Lewis and others are drilling a second well on the J. J. Morris farm in the Injun sand and it is a light gasser.

Mingo County

In Mingo County the Red Jacket Consolidated Coal & Coke Co. completed No. 13 on its own property in Harvey district in the Maxon and Big Lime sands at 1,502 feet and it is a fair gas well.

In Wayne County the Bull Creek Gas Co. completed a test on the J. C. Crumb farm, Lincoln district, at 2,700 feet and in the Brown shale. It will make a light gas well, natural. In Reedy district, Wirt County, the Hope Construction & Refining Co. completed No. 3,520 and a test on the J. G. Watkins farm through the Berea sand at a depth of 2,651 feet and it is dry. In South West district, Doddridge County, the Pittsburgh & West Virginia Gas Co. completed No. 4,995 on the W. F. Osburn farm at 1,923 feet in the Big Injun sand and it is showing for a fair gas well.

Tests Starting

In Troy district, Gilmer County, the Mudlick Oil & Gas Co. has started drilling on the P. R. Woofter farm and have reached 500 feet. In Court House district, Lewis County, the McCall Drilling Co. is drilling on the Edward Dargan farm and will soon reach the Big Injun. In DeKalb district, Gilmer County, A. E. Ellis and others have started a test on the Bush heirs farm. Little progress is being made in Gilmer County on account of the scarcity of water.

In Pleasants County Sud Powell has abandoned a location on the George Reed farm in McKim district. In Union district L. C. White and others are fishing for tools in their test on the A. J. Howland farm after reaching 1,000 feet. In Murphy district, Ritchie County, Huffman and others have cleared a location on the Emery Wilson farm. In the same district C. B. Lewis and others have a rig up on the W. F. Baker farm.

CANADIAN GAS NEWS

CHATHAM, Ontario, Nov. 1.—Electors of St. Thomas, Ontario, will on December 1 vote on alternative propositions to continue the present gas plant as a municipal enterprise or to sell it. Proposals for purchase of the plant by artificial and natural gas interests have been received by United Fuel Investments, Ltd., of Hamilton, Dominion Natural Gas Co. of Buffalo, and Central Pipe Line Co. of Chatham.

It is reported that following the operations of the Canadian Western Natural Gas Co. in recharging the exhausted sands of the Bow Island Field with waste gas from Turner Valley, the pressure of the Bow Island municipal gas well has increased from 90 to 200 lbs.

The Calgary, Alta., city council has appointed a committee to consider the renewal or revision of the present rate schedule.

NEW DIESEL PATENTS

WASHINGTON, D. C., Nov. 3.—Patents have been obtained in this and in 22 foreign countries for a new Diesel engine designed to use crude oil. In the new type engine Capt. John J. Devert, United States Army, stated that its simplicity of construction has eliminated 1,400 parts ordinarily used in such 4-cylinder engines. The engine has been constructed as the result of experiments carried on at the College Park Airport near Washington. It is claimed this engine eliminates all radio interference due to its absence of electrical appliances and that it can be operated for one-fifth the cost of the average motor. Crude oil is used successfully even at maximum speed. —C. E. K.

I. P. A. TO TULSA

The national headquarters of the Independent Petroleum Association of America, and the state headquarters of the Independent Petroleum Association of Oklahoma have been opened at rooms 413, 414 and 415 of the Thompson building in Tulsa.

SOUTHWEST TEXAS FIELDS

(Continued from Page 48)

is thought to have gone through the fault plane.

In the unitized pool at Adkins in eastern Bexar County, Penn Oil Co.'s No. 1 Cooksey, the discovery well of the pool and the only one thus far, has increased its production to 51 bbls. of oil and no water at a total depth of 1,460 feet. The company has started the second test to the northeast of it and will carry the second one to the Edwards lime. When the first location was drilled on the Cooksey the company was not counting on production in the shallower formations at 1,460 feet.

A. H. Wray's No. 1 Burns in northeastern Frio County which discovered a new producing spot at 2,368 feet and in the Taylor marl has been working with bridges and gauging and has finally decided to deepen. It looks like about 3,000,000 feet of gas where it is now.

Down in Starr County Los Almos Oil & Gas Co. had a gas blowout at 382 feet. It bridged and this has now been drilled out and it blew out again and is estimated as a big gas well. Estimates are all out of proportion to the depth. The well is said to be throwing out rocks and the company is trying to get it under control.

Laredo District

In the Laredo district Magnolia abandoned its No. 1 Sue Jones at 5,001 feet, dry. It is in Survey 674 and about 3 miles east of the Carolina-Texas Pool in Webb County. It is an effort to pick up the new line of production rather than extend the old.

Darst Creek Production

Darst Creek under the present proration has been producing at the rate of around 59,000 bbls. daily. The Railroad Commission cut this to 30,000 bbls. per day and it is from this decision that some of the producers are protesting. The production for the week ending October 28 shows 219 wells and a daily average of 58,366 bbls. which is close to the allowable rate. Production for the week ending October 28 is distributed among the producers as shown below and on that date there were 28 operations listed in the field.

Darst Creek Production for Week Ending October 28

Company—	No. of wells	Dly. prod.
Abercrombie	5	1,150
Empire Gas & Fuel Co.	3	785
Humble Oil & Ref. Co.	42	11,187
The Texas Company	50	16,547
Gulf Production Co.	42	13,321
Magnolia Petroleum Co.	33	5,096
Sun Oil Co.	12	4,766
Louisiana Oil Refining Co.	13	4,545
Penn Oil Co.	1	75
Stroube & Stroube	1	110
Thomson	1	25
Trinity Drillers	5	375
Simms Oil Co.	3	275
Cranfill & Reynolds	1	50
L. C. Turman	1	45
Jake Jarmon	1	100
Total	219	58,366

CANADIAN FIELDS

(Continued from Page 52)

No. 5, same section, which will resume after cementing at 4,455 feet.

East Crest Oil Co.'s No. 2-A, LSD 4, Section 16-19-2w5, has reached a peak around 612 bbls., which may be slightly increased. As a precaution against freezing, back pressure between 1,200 and 1,300 pounds is maintained, and so far no trouble has been experienced. East Crest's No. 1, LSD 5-6, is making 60 bbls. or less. East Crest's No. 3 has been located just south of No. 2-A and is reported working on cellar. Drilling contract for No. 3 has been awarded to Boller, Sherman & Boller of Tulsa, who brought in No. 2-A, the big producer. Estimated steady production is between 500 and 700 bbls. a day.

Ribstone Producer

In the Ribstone Field, east central Alberta, Meridian Oils' No. 3, LSD 4, Section 16-45-1w4, cemented on top of the oil sand at 1,882 feet in September, has been drilled into production. The well, from an absolutely dry hole after drilling in, filled about 450 feet in the first 45 minutes, and looks like the best producer yet drilled.

Following completion of Meridian's No. 3, Oxville Oil & Gas Co.'s No. 2, will likely be started this fall. Frank M. Henderson and associates of Calgary are reported moving in derrick timbers and equipment for a test.

Drilling in the Foothills

On the Monarch structure, Cartier-Majestic's No. 1, LSD 3, Section 36-31-7w5, is reported rigging up, test to spud in about November 15.

On the Herron structure, Herron Petroleum's No. 1, LSD 3, Section 13-22-6w5, got the Madison lime at 2,700 feet and is reported drilling at 2,820 feet. Some small gas shows were encountered above the lime, and considerable additional gas has been struck since entering that formation. Outcrops on Canyon Creek indicate a 75-foot porous strata in the lime around 2,950 feet, where commercial production is possible.

On the adjacent Moose Dome structure, Moose Oils' No. 1, LSD 16, Section 29-22-6w5, was recently tested after being shut in for some weeks. The well got a strong gas flow, estimated 10,000,000 feet, at 2,789 feet depth, which later pinched off. When opened up recently, the well blew wide for about five minutes with a strong gas flow and then froze off. The gas, which comes from the Madison limestone, is reported to have shown considerable naphtha saturation. A pressure around 1,100 pounds developed when the well was shut in. Production comes from the bottom of the hole, though additional gas production is taken through the bradenhead from 2,410 feet. It is claimed this upper production is good for around 25 bbls. recovery. Following the test, officers of the company are letting contract for recovery of the tools and cleaning out and deepening of the hole.

May Test Brazeau

Alberta Pacific Consolidated Oils, Ltd., which recently abandoned its test on the Duvernay structure north of Edmonton, is reported planning to test the Brazeau Field in the foothills west of Edmonton. The area under consideration lies in Townships 44 to 50, Ranges 18 to 23, and is 7 miles wide and about 40 miles long. The structure is a fold east of the Rocky Mountains similar to the Turner Valley and other structures south of Calgary, but is thought to be less sharp and of considerably greater extent. It has not been tested, but two tests were drilled some years ago by Imperial Oil, Ltd., in the Coalspur area, somewhat further north. Imperial's Coalspur No. 1 was abandoned owing to drilling difficulties, and No. 2, in LSD 10, Section 3-49-21w5, quit at 4,300 feet after encountering considerable gas.

Red Coulee Field

In the international Red Coulee Field Celtic Oils' No. 1, LSD 4, Section 17-1-16w4, is unofficially reported deepening at 2,560 feet after encountering a small show of high grade crude in the Sunburst sand.

Enters Alberta Field

Parco Oil Co., recently incorporated under Canadian charter with office at Calgary, is an important new organization to enter the Alberta border fields. This company is a Canadian subsidiary of the Producers & Refiners Corp. and Prairie Oil & Gas Co. A party of company officials recently visited Calgary and inspected acreage in southern Alberta. The party included R. E. Wertz, vice president of Producers & Refiners Corp.; John Fertig, vice president and general manager; P. C. Spencer, general counsel; A. G. Dana, vice president and general manager of the Prairie Oil & Gas Co.; O. E. Garretson, secretary-treasurer, and E. H. Aderton, superintendent of production for the Prairie company. Other members included Al Beck, chief Geologist; W. E. Bryan of the land department, and B. C. Bench of the geological staff of the Prairie company, and Joseph S. Irwin, geologist, and Hal Curran of the land department, who will direct the affairs of the Canadian subsidiary.

The members of the party made a reconnaissance of a number of southern Alberta structures by airplane, checking over ground already covered by geologists, who have been quietly in the field for several months. Parco headquarters will be at Calgary. The company is reported to be especially interested in acreage south of Lethbridge and close to the international boundary, and development plans include a series of between 20 and 30 structure tests to be followed by commercial drilling. If sufficient production is secured, refining will also be undertaken.

Border Fields

On the Lethbridge structure, Texas-Imperial's No. 1 joint test, LSD 14, Section 22-8-22w4, has cellar dug and is working on 6,000-foot water line which is being laid at 6-foot depth to prevent freezing. Test will spud in some time this month and production is looked for around 3,800 feet.

In the Milk River district, drilling is reported resumed at 4,470 feet after making water shutoff. Test is unofficially reported making new hole in the Devonian lime around 4,550 feet. Anglo-Western Oils' No. 1, LSD 1, Section 12-4-17w4, is reported spudding in with 20-inch hole and will run three shifts.

Manitoba Operations

In southern Manitoba, Commonwealth Petroleums, Ltd., of Calgary has started operations on acreage near Manitou, within about 15 miles of the international boundary and due south of Portage La Prairie. Equipment for core-drilling has been moved in and the first of a series of structure tests started. A nearby area was tested about 17 years ago by a British syndicate, which drilled a series of three tests but did not carry operations to conclusive depth. The drilling at that time is understood to have encountered some gas and traces of oil.

British Columbia Test

In British Columbia, B.C.-Alberta Oils, Ltd., of Vancouver has located its No. 1 test close to the international, boundary and a short distance west of Abbotsford, in the Fraser Valley. Geological investigation of the area has been carried on for some time.

Mr. Stillman Makes Statement

In the course of a recent visit to Calgary, C. O. Stillman, president of Imperial Oil, Ltd., made a statement with reference to the oil situation in the Canadian West. He stated that the East Crest No. 2-A well had further proved the south end of the Turner Valley Field and had borne out the contention of Imperial Oil geologists that the Turner Valley is a naphtha and gas field rather than a crude oil field.

"Development in the valley this year," said Mr. Stillman, "has been in the line of orderly progress and has served the double purpose of meeting the West's requirements for naphtha while conserving to as great a degree as possible the natural gas control in the field.

"The company's plans at present do not include any increase in the size of the refinery at Calgary and only the necessary small changes will be made.

"A test well is to be drilled by Imperial Oil, Ltd., on a structure recently mapped near Lethbridge. The company's geologists have been active in Alberta all summer, but no notable discoveries have been made.

"Imperial is now drilling a test well near Truro, Nova Scotia, where there is some oil seepage. The contour of the country is such, however, that the drillers have very little definite geological data and it is impossible even to estimate at what depth it may be found. The company will drill until it strikes oil or until such time as it has penetrated into the earth as far as modern drilling equipment will permit.

"On the whole, production from Turner Valley has proved satisfactory. Some little encouragement has been afforded the industry at Ribstone through the Meridian wells which have brought in some low gravity oil."

Ontario Drilling

In Ontario, Petrol Oil & Gas Co. of Toronto has finished another shallow gasser on the Six Nations Indian Reserve near Brantford. The well showed an initial open flow of 170,000 feet, which later increased to 190,000 feet.

In Kent County an effort is to be made to revive production in certain sections of the old Tilbury Field, where acreage is being leased by the East & West Oil Co., Argo Oil & Gas Co. and other interests.

LA.-ARK. FIELDS

(Continued from Page 46)

feet, and is shut down for orders after testing small amount of water at 705-12 feet. Magnolia Petroleum Co.'s No. 2 Gardner, Section 1-22-11, Sarepta district of Webster Parish, pumped 25 bbls. oil and 160 salt water from 2,738 feet but Liggett and others' No. 2 Slack, Section 36-23-11, was a dry hole at 2,618 feet.

ARKANSAS

H. R. Smith is getting ready to make his first drill stem test on No. 1 Lytle in Section 31-18-3, Chicot County, Arkansas; at 2,891-2,903 feet. Chicot county is the extreme southeast corner of the state. Clay County is the extreme northeast corner and in Section 4-20-8, at Piggott, and not more than 10 miles south or the Missouri line, S. C. Jeffus' No. 1 Underwood had 1,000,000 feet of gas at 280 feet but went on past it and is drilling at 330 feet.

E. & F. Oil Co.'s No. 1 Beck, NW SW Section 36-15-26, Miller County, 2 miles south of the discovery well, flowed 125 bbls. fluid about 12 per cent oil from 2,814 feet and was coring sand and shale at 2,830 feet. Lenz and others' No. 2 Johnson, SE NW Section 24-15-26, one location north of the discovery, had mud, oil and salt water on a test at 2,930 feet and is coring at 3,050 feet. Meanwhile they made location for No. 3 Johnson in the SE cor. NE NW of the same section, half a mile north.

Graves Brothers' No. 1 Walker, Section 9-14-18, 9 miles north of Mount Holly production in Ouachita County, is waiting on pumping rig after a show at 1,861-73 feet. This is a rank wildcat far from any other production. Mahon Interests' No. 1 Mannheimer in Phillips County, northeastern Arkansas, a core test in Section 15-13-1e, was abandoned at 210 feet.

Marine Oil Co. abandoned location for No. 2-B Thompson in Section 10-18-13, Urbana district of Union County, but immediately made location for No. 5-B Thompson in the SW NE of the same section and has derrick up. Ohio Oil Co. got the second good well in two weeks in southeastern Champagnolla, where there was not as much development as in the northern and western area, when No. 4 R. Pumphrey NE NW Section 12-17-14, was completed flowing 910 bbls. the first 17 hours from 2,991 feet. With 700 feet of 23.5 gravity oil in the hole from 5 feet of sand at 2,740 feet, J. E. Crosbie and associates decided not to go on with No. 1 Murphy, SW NW, Section 13-16-16, which was scheduled for 4,500 feet, but will put it on the pump as a southwestern extension of Smackover second sand of about three-quarters of a mile.

EAST TEXAS

Except for a dry hole at 3,202 feet, in Bowie County, Timberlake and others' No. 1 Tidwell, a mile or so south of New Boston, there were no completions in East Texas border counties. However, there is much leasing, particularly in western Harrison County. Corona Petroleum Co. of Fort Worth, is building a block 8 miles northeast of Marshall, and has considerable acreage in and around the W. H. Payne, R. O. Watkins, Joel B. Crane and Hamilton McNutt surveys. Harleton interests are blocking 5,000 acres around that town, 18 miles northwest of Marshall. The leases are being taken in the name of Little and others and are being secured for a well which will be drilled by other interests who, it is understood, are ready to start as soon as the block has been completed. Wesley Morse has a block of 7,000 acres centering 3 miles east of Avinger, Cass County, which is said to be attractive to two major companies, one of which has an option on it, while the other is ready to take it if the option is not exercised. He has location for No. 1 Henderson in the C. E. Bailey Survey. Phillips Petroleum Co., which has had rig up for No. 1 Olds in the J. A. Stephenson Survey in Cass County, for some time, began drilling October 21 and has 14-inch surface

pipe set at 210 feet, and is drilling at 250 feet. Texas-Louisiana Production Co. has rig up for No. 1 Baker in the B. C. Jordan Survey of Panola County for a deep test in that gas field. Benedum & Trees' No. 1 Nona Mills, in the James Mason Survey of Sabine County, tested 1,000,000 feet of gas in a break in the lime and is arranging to set 9-inch.

MICHIGAN FIELDS

(Continued from Page 56)

agara limestone formation believed to be at about 3,700 feet in the proved area but had not expected anything in the Monroe formation.

Several wells in Laketon Township near the edge of the field have been drilled into or nearly into the Monroe at the corresponding depth with nothing more than a slight show of oil.

The well is the Muskegon Deep Well Syndicate's No. 1 Herman Heinz, NE NE, Section 8-10-16w, Muskegon Township. It is located on Daniloff Avenue about half a mile from the discovery well of the field. It is being drilled by R. N. Steele, Muskegon and Mount Pleasant, contractor. His contract calls for completion of a satisfactory hole to a maximum depth of 5,200 feet or less if commercial production is struck. He started operations several weeks ago but had been delayed by various factors.

One Abandonment

The Muskegon Oil Corp.'s No. 1 Bouwsma, SW NW NE, Section 5-10n-16w, Muskegon Township, was dry in the Traverse and Dundee at a total depth of 2,075 feet. Dundee was struck at 2,064 feet but water at 2,075 feet will lead to plugging and abandonment. It was a short distance northeast of production.

Lima Oil Corp.'s No. 9 Louis P. Haight, SW SW SW, Section 9-10n-16w, Muskegon Township, failed to make commercial production in the upper Traverse as had been indicated when it flowed over the derrick when drilled in. It is being deepened to the lower Traverse and is drilling at 1,725 feet.

The Middle West Oil Co.'s No. 3 Mrs. Moch heirs, SE NE, Section 7-10n-16w, Muskegon Township, is being tubed to test a show of oil in the lower Traverse formation. Oil was struck at 1,868-71 feet, the bottom of the hole.

Casing is being set at 1,985 feet in the Blue Arrow Petroleum Co.'s No. 1 Workman, SW NE, Section 8-10n-16w, Muskegon Township, on the river flats. It will be drilled into the Dundee when cased.

Other Operations

The Atlantic Exploration Co.'s No. 1 Stone, SE, Section 27-12n-14w, Sheridan Township, Newaygo County, was dry in the upper Traverse at 2,174 feet and will be abandoned.

Pure Oil Co.'s No. 2 Wilcox, NE SW Section 1-14n-3w, Chippewa Township, Isabella County. Dundee limestone was topped at 3,510 feet with pay sands at 3,543-90 feet for an initial daily flow of 50 bbls.

Mellon-Pollock Oil Co. struck a hole full of water in No. 1 Johnson, SE SW Section 35-18n-10w, Lincoln Township, Osceola County, near Reed City. Dundee limestone was topped at 3,734 feet and salt water at 3,832 feet. Drilling was discontinued at 3,836 feet but the hole has not yet been abandoned.

Eureka Oil Corp.'s No. 1 W. J. Lambert, SW SW Section 9-16n-4e. Fraser Township, Bay County, struck Dundee at 3,002 feet, too low to expect success. It was drilled to 3,050 feet and may be drilled to deeper formations.

Three wells are drilling in Chippewa Township, Isabella County. One, the Mount Pleasant Oil & Gas Co.'s No. 3 Thompson-Bortz, is about ready to drill into the Dundee.

Mount Pleasant

Twenty other wells are active in and near the Mount Pleasant Field. Major interest centers in the Leaton Pool where nine wells are drilling and there are prospects of several new locations being announced as a result of the 275-bbl. well struck last week in the Gibson, Johnson & Borden Co.'s No. 1 Mahon in Section 24, Isabella Township, Isabella County.

Three wells are drilling in Broomfield Township, one near Remus, four near Clare and three in Vernon Township, Isabella County.

Proration of pipe line runs to 25 per cent of all wells brought in since September 1 and 60 per cent of producers completed before that date principally accounts for the lack of greater activity. The cut in the crude oil price to $1.10 a barrel last week also is expected to have a further deterrent effect.

Gibson, Johnson & Borden's No. 1 Brophy, in Section 19, Denver Township, Isabella County, is still shut down on the casing point but probably will be drilled in soon. Operators are particularly interested in this well.

Indications are that the General Petroleum Co.'s No. 1 Pat Regan, SE NW NW Section 36-16n-4w, Vernon Township, will soon be completed as a "duster" in the Dundee if it is not decided to carry it about 400 feet deeper for a test of the Monroe.

The Hillmur Oil Co.'s No. 1 Cicarlton, SE SE SW Section 28-4n-3e, Conway Township, Livingston County, was dry and abandoned at 2,310 feet deep.

The St. Clair Oil & Gas Co.'s No. 1 O. L. Hubbard, SW NE Section 14-2s-6w, Marshall Township, Calhoun County, also is dry and abandoned at 4,571 feet after having passed through the St. Peter at 4,564 feet.

Two permits were issued by the State Conservation Department. One was the Cimusk Oil Co.'s No. 2 Paulson-Barlow, W half SE NE Section 8-10n-16w, Muskegon Township, Muskegon County, on the edge of the Muskegon River flats. The other will be the Meridian Oil & Gas Co.'s No. 1 Russell, NE SE NW Section 22-16n-4w, Vernon Township, Isabella County.

ROCKY MOUNTAIN AREA

(Continued from Page 52)

back to 3,885 feet and 7-inch was cemented at 3,813 feet. The plug was then drilled out and the hole carried 4 feet below old bottom when it filled up with sulphur water. Continental Oil Co.'s No. 1 William Meyers, SW cor. NW, Section 28-22-38, 2½ miles southwest of No. 1 State-McDonald, ran 6⅝-inch at 3,752 feet. At 3,775-80 feet it had a show of oil and at 3,842-45 feet it ran into sulphur water. It probably will be saved as a gas well as it had around 38,000,000 feet a day in upper horizons.

Caprock Area—Lea County

Western Drilling & Engineering Co.'s No. 1 Bridges, SE cor. NW, Section 17-17-34, is drilling at 1,860 feet.

Lovington Area—Lea County

Galt, Brown and others' No. 1 State, SW NW NW, Section 9-15-35, is drilling at 1,645 feet in red rock and shells. The 12½-inch is at 1,373 feet and the 10-inch is being carried. It had one bailer of water per hour at 1,635 feet.

Eddy County

Lockhart & Co.'s No. 1 Livingston, C SW SW, Section 23-24-28, in the Pearce Canon district, is drilling at 265 feet in brown shale and carrying 15½-inch. It had 10 bailersfull of water per hour at 100-05 feet. This is to be a 4,000-foot test. The surface is Permian. Getty Oil Co.'s No. 6 Dooley, C NW SW, Section 24-20-29, Twin Mounds district, is drilling at 1,018 feet in lime and anhydrite. It had a show of gas estimated at 1,500,000 feet, in the top of the lime at 1,001 feet, and an increase at 1,016 feet.

San Juan County

Continental Oil Co.'s No. 24, SW NW, Section 1-29-19, Rattlesnake Dome, is drilling at 3,500 feet. Top of the Pennsylvanian is expected at around 5,000 feet and the objective sand is due at about 6,770 feet. Dorothy Oil Co.'s No. 2 Goede, NW SE, Section 29-30-9, Blanco district, is preparing to resume at 1,750 feet, following a fire in its No. 1 Goede which put it out of commission temporarily. Murchison Oil Co.'s No. 2 Angel Peak, SW SE, Section 11-28-11, Kutz Canon, cemented on top of the Picture Cliff at 1,840 feet and is standardizing. Kutz Canon Oil & Gas Co.'s No. 1 Day, SW cor., Section 20-28-10, is cementing casing on top of sand at 2,012 feet.

Luna County

Angelus Oil & Mining Co.'s No. 3 State, NW SE, Section 20-21-10, is fishing for tools at a total depth of 5,845 feet.

San Miguel County

Cibola Petroleum Co.'s No. 1 Crow, SW NW SE, Section 19-13n-14e, Ribera district, is reported drilling at 650 feet. It spudded in the red beds a year ago and was reported to have had a good show of oil at 440 feet.

COLORADO

Weld County

Preparations have been completed for drilling in the Platte Valley Petroleum Co.'s No. 1 Patterson, NE SE NW, Section 24-6n-61e, on the Greasewood Dome in Weld County, Colorado, which came in October 10 at 6,667 feet and since then has been flowing by heads at intervals of four hours. The intervals between heads have lengthened slightly and there has been some increase in the quantity of oil. It is now making around 200 bbls., compared with 180 bbls. when the oil first was turned into the tanks. The plans at present are to resume operations on the well on November 3. The 4¾-inch casing, which is now 32 feet off bottom, will be lowered to the bottom, but not cemented. Drilling then will go ahead slowly and cautiously with the intentions of landing 4¾-inch on top of the sand and cementing it. No one knows just how much drilling will be required, but the company estimates it will take 10 to 20 feet of new hole to put it into the sand. Some geologists who are watching the well closely believe the Muddy sand of the Dakota series is mostly a sandy shale and that it will take 50 to 60 feet to put it into the top of the second, or Dakota sand. The oil now coming from the well is supposed to be from the Benton shale and tests 42° gravity with a slight variation one way or the other in different samples. The boiler, which was moved back when the well came in, has been hooked up and will use gas for fuel. A control valve is in place and the casing has been securely anchored.

The Platte Valley company has made temporary arrangements with Continental Oil Co. for it to take the crude until the well can be completed. It was stated that no permanent contract for the oil has been concluded. The Continental company has put into operation between the well and Orchard, on the Union Pacific Railroad 10 miles to the south, two tank trucks. These trucks have about 25 bbls. capacity each and are running 24 hours a day. The Continental erected two 500-bbl. storage tanks, one gun-barrel tank and is completing a 5,000-bbl. tank. The two smaller tanks are full of oil and this is the oil being trucked to Orchard where the Union Pacific has placed a tank car on a siding.

While there has been no abatement of interest in the discovery, most of the major companies are holding off in their leasing until the well is completed and their geologists have had time to check the structure. One deal reported this week was the purchase of an 80-acre tract consisting of the N half SW, Section 24-6n-61, by the Reiter-Foster Oil Co. It is less than one-half of a mile south and west of the discovery well. The price is reported to have been $100 per acre payable in cash. A one-half of the one-eighth royalty on the NE NE, Section 24-6-61, was reported to have sold for $600. Continental Oil Co. is reported to have acquired a lease on all of Section 22-6-61, west of the well, for $15 an acre. On another tract in the vicinity of the Continental lease, an offer to drill a well at once for a lease was made by another party and rejected. No locations have been announced, but the Platte Valley company expects to drill another well one-fourth of a mile north of the discovery on the Johnson tract at once.

Lincoln County

Kelly Oil Co.'s No. 1 State, SE cor. NW, Section 36-14-57, which has been idle for several months at a total depth of 3,350 feet, may resume shortly as a result of renewed interest in the eastern Colorado area. The hole was showing some gas when drilling was suspended. It was bottomed in shale and had not reached the Dakota. It was cemented to stop caving before drilling ceased.

Morgan County

Indian Territory Illuminating Oil Co.'s No. 1 State, C NE NE, Section 16-1n-57, Fort Morgan anticline, the same line of folding upon which the Greasewood well is located, is reported drilling at 3,410 feet.

Arapahoe County

MacDeb Drilling Co.'s No. 1 Fitzsimmons, C S half NE, Section 7-4s-66, finished up its long and difficult fishing job and recovered the bit which was dropped last May. The hole is bottomed at 5,692 feet and 6¼-inch is at 5,650 feet. Repairs to derrick and bullwheel are expected to be completed within a few days when the making of hole will be resumed. It is not definitely known in what formation the hole is bottomed, but the drillers formerly in charge identified the horizon at 4,228 feet to be in the base of the Niobrara. The well is showing a little gas.

Elbert County

The rig over J. M. Botts' No. 1 Buick, SE cor., Section 1-8s-59, near Deer Trail, is reported to have been moved away. This hole was started early in 1928 and in February, 1929, the casing dropped and a year later fishing still was in progress. The operator gave out no information but the best reports available put the depth at 4,120 feet. The 6¼-inch dropped 30 feet and part and 3,250 feet was recovered. For a time it was stated another well would be drilled, but inquiries at the hotel where Mr. Botts stopped when in Denver brought the information that he had returned to California for good.

Adams County

Nettie M. Slatt's No. 1 Hills, SE cor., Section 27-3s-64, Watkins district, landed 10-inch at 2,427 feet for a formation shutoff, but did not cement it. The boiler has been moved back and drilling resumed.

Jefferson County

Ruby Hill Oil & Gas Co.'s No. 1 Braden, SE cor., Section 24-4s-69, is bottomed at 3,734 feet, 14 feet in a hard rock, and is rigging up new cable.

Larimer County

Continental Oil Co.'s No. 3 Scott, SW SE, Section 6-9n-68, Wellington Dome, a producer in the Muddy sand being deepened to test the Lakota, is coring at 4,626 feet. Top of the Lakota was at 4,612 feet. The Dakota contained some water. Stanley M. Barrows' No. 1 Munroe, C NW NE, Section 26-11n-69, Round Butte, is bottomed at 1,050 feet in the Niobrara shale and preparing to run 8¼-inch. The hole is caving and showing a little gas. C. Leonard Smith's No. 1 State, SE cor., Section 36-12n-70, Sand Creek, is drilling below 210 feet. Poudre River Oil Co.'s No. 1 Warren, NE cor., Section 33-8n-69, northwest of Fort Collins, is recementing the 3½-inch at 3,600 feet.

Fremont County

Continental Oil Co.'s No. 1 Gibbons-Truesdale, NW NW, Section 20-20-69, in the south extension of the Florence Field, is rigging up to deepen. The 5⅜-inch is at 2,123 feet. It is an old producer.

Routt County

Texas Production Co.'s No. 4 Carstarphen, NW NW, Section 5-6n-86, Tow Creek, is bottomed at 3,060 feet and preparing to run the 8⅝-inch.

Moffat County

Mountain Fuel Supply Co.'s No. 2 State, SE NE, Tract 37-12n-100, Hiawatha Dome, cemented 15½-inch at 720 feet. Texas Production Co.'s No. 4 Wick, NW NW, Section 10-4n-91, Moffat Dome, is drilling at 4,429 feet, and its No. 12 Knowlton, SW SE, Section 33-5n-91, is drilling at 4,592 feet in the Sundance with oil in the hole. S. H. Keoughan and others' No. 1 State, SW SW, Section 16-4n-101, Skull Creek, is shut down for the winter at 2,950 feet. The hole is bottomed in cavy shale with some water in it. The rig used in drilling to this depth has reached its capacity and the plans are to move in a standard rig, run casing and resume in the spring. Midwest Refining Co.'s No. 24 Hannewalt,

SE SE, Section 4-6n-92, Bell Rock, is bottomed at 3,040 feet and rigging up new string after successfully sidetracking two bits.

Rio Blanco County

Tidewater-Associated Oil Co.'s No. 1 Amazon, SE cor., Section 24-2n-103, Rangely Dome, drilled to 4,800 feet when two drill stems were lost, plugged back and tested sand at 3,717-45 feet which flowed 900 bbls. of water a day. It was then plugged back to the horizon at 3,250-3,300 feet which made 600 bbls. of water. It is now being plugged back to above 3,100 feet and will drill out to 3,175 feet, shoot and test. This is the horizon in the Dakota which has heavy gas pressure in several wells drilled by the Midwest and Texas companies. There is some talk of a joint test with rotary equipment in this field in the spring, but no definite announcement has yet been made.

La Plata County

McGarr Petroleum Co.'s No. 1 Sanches, SE cor. NE, Section 27-33-12, Red Mesa district, is reported shut down at 3,262 feet with several hundred feet of oil in the hole. The sand was at 3,204-62 feet with a shale break at 3,245-50 feet. A mile north of this well Erdman Producing & Drilling Co. put down its No. 1 Pulliam, SW cor. NW, Section 23-33-12, several years ago. It was abandoned at 3,525 feet. It had an oil show at 3,030-47 feet and an oil and gas sand at 3,320-45 feet. It was estimated good for 10 bbls. of 42 gravity oil and 1,000,000 feet of gas, but was drowned out by salt water. A mile south of the McGarr well, in the SE NE, Section 34-33-12, J. A. Leidecker drilled to 3,650 feet in 1924 and abandoned the hole after shooting a sand at 2,880 feet which had shows. Ohio Oil Co.'s No. 1 Snyder, C NE SE, Section 11-33-12, was abandoned at 3,842 feet. Miley Exploration Co. drilled a dry hole southwest of these operations and a 5-bbl. well was found in Section 13-33-12 and abandoned at 3,600 feet. The McGarr company has made a location for its No. 1 Pinon Mesa Land Co. in the NE cor., Section 34-33-12.

WYOMING

Niobrara County

The Lance Creek Field in Niobrara County, Wyoming, 70 miles east and 24 miles south of the Salt Creek Field, and northeast of the Big Muddy Pool, is scheduled for a revival of its old-time importance as a result of a discovery made by the Ohio Oil Co. in its No. 4 Converse Sheep, SE SW SE, Section 32-36-65. This well has opened a new producing horizon in the Sundance formation which is expected to affect between 4,000 and 5,000 acres located along the anticline. Heretofore all production in the field has come from the sands in the Dakota series. Last spring the Ohio company started a deep test with rotary equipment with the Sundance as the first objective. Several weeks ago this well reached the top of the Sundance at 3,612 feet where 8⅝-inch was cemented. After it had set, the plug was drilled out and at 3,731 feet circulation was lost and a blowout of mud, oil, gas and water occurred. The rig was damaged and further delay resulted. This week the repairs were completed and a swabbing test was started. The agitation caused the well to begin flowing 40 bbls. an hour. After a short test, it was shut in and the company estimated the well at 600 bbls. The oil tests 36.2° gravity on the Baume scale. It also made 3,000,000 feet of gas. No more wells will be drilled this year.

Lance Creek was discovered in 1917 and up to this time has produced 4,000,000 bbls. of oil. Production has shown a steady decline until now it is around 100 bbls. The oil heretofore has come from the Muddy, Dakota and Lakota sands, which are irregular in thickness and erratic producers. The structure has a 700-foot closure and has dips varying from 3° to 35°. The principal owners of acreage are the Ohio Oil Co., the Argo Oil Co., a subsidiary of the New Bradford Oil Co., and the Continental Oil Co. The Argo company has the lease offsetting the Converse Sheep tract upon the southwest. It also has acreage to the east where its No. 2 Ford, SW SE, Section 33-36-65, is being deepened. It is bottomed at 3,364 feet with the 4¾-inch at 3,329 feet and is making 5,000,000 feet of gas from the Muddy sand. It will be continued on to the Dakota where larger gas is expected.

Weston County

Osage Oil Producers Association held its annual dinner and dance on Saturday, October 25, at Cambria Park, in the Osage district, to celebrate an unusually successful season. F. V. Eaton of the Walda Oil & Gas Co. of Osage was chairman of the entertainment committee.

Drilling operations in the Osage Field are as follows: Peter Scriber's No. 1 Fee, NE SE, Section 11-47-63, is shut down for pipe at 391 feet, and Yellowstone Petroleum Co.'s No. 2 McCullough, NW NE, Section 23-46-64, is drilling at 550 feet. Lambie Oil Co.'s No. 3 Bock, SW cor. NE, Section 14-46-64, topped the sand at 1,750 feet and the well is flowing while the pipe is being underreamed and lowered. The same company's No. 6 Bock, SW NE, Section 14-46-64, is drilling at 700 feet. Osage Trust Co.'s No. 8, NW cor. SE, Section 14-46-64, is drilling at 1,500 feet, and its No. 9, SE cor., Section 14, is drilling at 1,000 feet. The same company's No. 10, NW SE. Section 14-46-64, is drilling at 500 feet. Dornacher, Bock & Monahan's No. 1, SE cor. SW, Section 46-64, is drilling at 200 feet, and Decker Oil Co.'s No. 1, NE NE, Section 1-45-64, is shut down at 1,725 feet waiting for pipe. Henderson, Garbereck and others' No. 1 Bock, SW cor., Section 2-46-64, is drilling at 1,550 feet.

Converse County

Weisman Big Muddy Oil Co.'s No. 1, SW SE, Section 6-33-76, Big Muddy Field, is drilling at 2,985 feet, about 150 feet above the Frontier. Continental Oil Co.'s No. 50 Whiteside, SW SW, Section 9-33-76, is drilling out cement at 3,226 feet, and Ohio Oil Co.'s No. 5 Jones, Section 9-33-76, cemented a cave at 3,308 feet.

Natrona County

Wind River Oil & Gas Co.'s No. 1 De Long, NE SE, Section 9-38-78, west of Teapot, is drilling below 3,400 feet with hot water flowing over the top. Cuyler Oil Co.'s No. 1 Ogden, SW, Section 24-36-85, Powder River, topped a sand in the Frontier at 1,302 feet and was drilled to 1,320 feet. It had a flow of 5,000,000 feet of gas with 500 pounds pressure in that horizon. It was shut down to complete plans for drilling on to the Muddy, the original objective. The 10-inch was cemented on top of the sand at 1,301 feet. Gas in the Frontier was found in former tests drilled on the structure, but none of these wells was drilled to the Dakota, the objective of this operation. The Midwest Refining Co. had 25 bbls. of production in a well it drilled several years ago. Midwest Refining Co.'s No. 11 Middy, NE NE, Section 23-35-79, Midway Dome, drilled out cement to 5,203 feet, 12 feet off old bottom, and put the well on a pumping test. It made 167 bbls. of pipe line oil and no water in 24 hours. It is expected to do better when more of the cement is drilled out.

Carbon County

Producers & Refiners Corp.'s No. 4 Wertz Dome, SW SE, Section 7-26-89, is bottomed at 3,392 feet and fishing for bailer, and its No. 3 Hatfield Dome, SE NW, Section 2-19-88, is drilling in hard shells at 4,338 feet. Midwest Refining Co.'s No. 27 Union Pacific, SE SE, Section 11-20-81, Elk Mountain, is drilling at 260 feet in dark gray shale. The 16-inch is at 244 feet.

Fremont County

Ward Oil & Gas Co. of Aberdeen, S. D., is erecting an 84-foot steel derrick in Section 28-34-90, Dutton Basin, for a Dakota sand test. B. B. Ward, president of the company, drilled a well on his own account in the SW of Section 28 two years ago which ran out of hole at 2,940 feet and was abandoned. The first well was reported to have had good shows of oil and gas. Producers & Refiners' No. 10, NW cor., Section 14-32-95, Sand Draw, was cored to 3,626 feet and is reaming at 3,624 feet, and its No. 2, SE NW, Section 33-34-92, Muskrat Dome, was cored to 4,558 feet and is reaming at 4,554 feet. Texas Production Co.'s No. 1 State, SW SW, Section 36-34-95, Alkali Butte, is bottomed at 4,485 feet and is jarring on 6⅝-inch, and Kinney-Coastal Oil Co.'s No. 1 Dykeman, SE SW, Section 22-3n-1w, Pilot Butte, is plugging back from 4,635 feet to test a show in the Lakota.

Sweetwater County

Vermillion Oil Co.'s No. 1, SW cor., Section 16-12-99, Hiawatha Dome, is drilling at 3,175 feet and carrying the 8⅝-inch. Mountain Fuel Supply Co.'s No. 1 Cappers, SW NE, Section 2-19-104, North Baxter Basin, is cleaning out at 3,157 feet.

Park County

Midwest Refining Co.'s No. 31 Frannie, SW cor. NE, Section 25-58-98, Frannie Dome, is pulling casing to abandon. It was drilled to 3,230 feet, more than 200 feet into the Madison lime. It was an offset on the east to No. 36 Rosenberg, the Madison lime discovery well which made 2,400 bbls. initial and then went to water, and is now making a little better than 100 bbls. of oil per day. Midwest's No. 31 Rosenberg, SW cor. SE, Section 24-58-98, is drilling at 2,612 feet in black shale. Continental Oil Co.'s No. 27 Elk-2, NE NE, Section 24-58-100, Elk Basin, is shut down for repairs at 1,473 feet. It topped the second sand at 1,445 feet and will be completed as a producer in that horizon. Texas Production Co.'s No. 2 Sonners, SW SW, Section 20-51-100, Oregon Basin, is drilling at 2,075 feet.

Hot Springs County

Midwest Refining Co.'s No. 8 Weeks, NW SE, Section 6-44-98, Wagonhound, is bottomed in sand at 4,490 feet and underreaming the 6¼-inch at 4,319 feet.

IDAHO

Mountain States Oil & Gas Co., in which Willard Scowfield of Ogden, Utah, with John Sandburg of Long Beach, Calif., are interested, is reported to have purchased a half interest in the holdings of the Crystal Dome Oil Co. on the Crystal Dome, north of Payette. This company's No. 2, SW SW, Section 32-10n-4w, blew in several weeks ago at 1,865 feet as a gas well and at last reports was making 5,000,000 feet. Grand Teton Oil Co.'s No. 1 Blevins, Section 33-5n-44, Teton County, is bottomed at 3,304 feet and waiting for rotary equipment.

MONTANA

Cold weather hit northern Montana the past week and has practically shut down all drilling wells on account of frozen water lines. Considerable snow came with the cold snap and this has made the roads bad. Only one well has been started in the Border Field and the oil operators are closing down the drilling wells, where they can with safety for the winter.

In the Sunburst Field, the NesMont Oil Co.'s No. 1 on Section 28-35-1, reached the sand and found a small showing of oil. A shot was tried, but it did not seem to help much and it is still a question if the well will make a producer.

The Munger Oil Co. on Section 27-35-1, Kaston lease, reached the sand in its No. 4 and shot with 60 quarts. It will make a small producer.

The Thompson Oil Co. has a well on top of the sand and is shut down due to cold weather freezing the water sup-

TARIFF COMMISSION HOLDS HEARING; BROWN AND TITUS ONLY WITNESSES

By C. E. Kern

Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Nov. 3.—To determine the price of crude oil landed on the Atlantic seaboard from Venezuela and from the Mid-Continent, in conformity with a provision placed in the tariff act last June, the United States Tariff Commission held its first open hearing. The session lasted about an hour and but little information of importance was developed. R. B. Brown, secretary of the Independent Petroleum Producers Association, and Louis Titus, of counsel for that association, being the only witnesses offering suggestions which the commission had invited from anyone who cared to appear.

Mr. Brown said the Maracaibo Basin in Venezuela was owned and operated practically by one company and it was important to obtain information not only from large companies but smaller ones as well. The companies represented by him would gladly submit their books and any other data in their possession. He discussed the difficulty of distinguishing between different grades of oil produced in Venezuela and in the United States as gravity was not always a test of the price obtained, and the cost of drilling was the same regardless of the character of the oil.

Mr. Brown suggested that the commission should make a tentative report and give his association an opportunity to submit comment before its adoption as the final report to go to Congress, February 17 being the limitation of time set for submitting the report to Congress.

Replying to a question by Commissioner John Lee Coulter, Mr. Brown said the actual cost of producing oil at the well was desired as well as the amount of transportation charges to which it would be subject. He suggested that in the tabulation of data the companies should change their cost accounting forms to the form adopted by the commission. In this country, he said, 80 per cent of the oil is produced by about 120 companies. Many of the small producers keep no satisfactory book account of costs, but enough of the smaller companies do keep cost accounts as accurately as do large companies and information from the small companies should be obtained.

Mr. Titus explained in reply to a question by Chairman Henry P. Fletcher that while it was true oil in Utah and Montana does not reach the Atlantic seaboard, still the cost of production in those states had an effect on the problem being considered by the commission because that oil is in competition with California production, and the latter does reach New York. In that way costs of production in many states become pertinent to the inquiry.

Mr. Titus reminded the commission that the only purpose of their investigation was to get information into the hands of Congress which could be used in considering the propriety of enacting a tariff on oil imported. He emphasized the idea that in obtaining costs there was nothing about the gravity of oil that affected the cost of production. This suggestion was brought out because of information that had been given in conferences to the effect that the commission was interested in the differences of gravity affecting the value of the oil because that would be considered in any proposition for a tariff regardless of similar costs of drilling.

"For all practical purposes," said Mr. Titus, "the cost of producing light and heavy oil will be identical."

No day has been fixed for any further hearing by the commission. It is known that most of the large companies to which questionnaires have been sent have submitted their replies. Many of them have been examined and some of them will be returned for explanations or additional information.

In view of the desire of the Independent Producers association to have the commission's report made to Congress as early as possible, members of the commission, after the hearing was adjourned, expressed their intention of speeding up their conclusions so that if possible they might be sent forward in December. This report, however, will doubtless be designated as a preliminary report. Up to this time officials of the commission who are handling this case have been doubtful whether more than a preliminary report could be made by February 17 as required by the tariff act.

ply lines. This well will be a completion as soon as the weather moderates. It is located on Section 20-34-1.

Near Opheim, Valley County, a wildcat being drilled as a test of a structure for gas, has passed several showings and the backers have ordered a new deep drilling outfit to put down a deep test. The present well is at 1,200 feet and in the Clagget shale with the Eagle sandstone expected within the next 100 feet.

Daily average pipe line runs from the various pools for the week ending November 1 follow:

WYOMING	
Salt Creek	28,460
Frannie	330
Big Muddy	2,030
Oregon Basin	2,560
Dutton	50
Elk Basin	780
Byron	510
Warm Springs	100
Lovell	10
Ferris	10
Grass Creek	2,080
Hamilton	930
LaBarge	1,670
Lance Creek	180
Lost Soldier	3,880
Osage	1,390
Poison Spider	390
Rock River	2,100
Simpson Ridge	50
Teapot Dome	20
Dallas-Derby	280
Hudson	310
Dry Creek	60
Pilot Butte	....
Total	48,180
MONTANA	
Cat Creek	1,090
Kevin-Sunburst	5,080
Pondera	1,770
Lake Basin	60
Border	540
Total	8,540
COLORADO	
Moffat	1,287
Fort Collins	1,125
Florence	633
Iles	1,042
Tow Creek	361
Boulder	35
Rangley	50
Total	4,523
NEW MEXICO	
Hogback	440
Rattlesnake	1,132
Table Mesa	86
Artesia	820
Cap Rock (Maljamar)	520
Jal	1,331
Hobbs High	32,403
Lea City	3,735
Miscellaneous (Lea County)	1,939
Getty	122
Total	42,528
Grand total	103,771
Previous week	99,511
Difference	4,260

ST. BONAVENTURE OFFERS EVENING OIL COURSES

BRADFORD, Pa., Nov. 3.—Two courses are offered this year in the evening division of the petroleum engineering school of St. Bonaventure College, located in Allegany, N. Y., in the heart of the Bradford-Allegany Field. One of these courses, "Petroleum Chemistry and Refining," is intended primarily for persons interested in the basic principles of chemistry and physics involved in refining as well as modern refinery practice.

The course carries regular college credit and offers the students the opportunity to become acquainted with standard physical and chemical tests of petroleum products through actual laboratory practice, and also opportunity for a limited amount of experimental and investigative work for advanced students.

The second course, "Petroleum Geology and Production," is being offered for the first time this year and is intended primarily for students interested in these fields.

These courses are given in the evening for the benefit of employed people in the petroleum industry who desire to gain a more thorough knowledge of the basic principles involved, and for people who wish to prepare themselves in the industry.

Courses in geology, stratigraphy, physics, mathematics, mechanical drawing, machine design, surveying, chemistry and various phases of engineering are offered in the regular daily divisions of the petroleum engineering school.

FIVE NEW TESTS IN JOINER POOL; PROBABLE EXTENSION OF VAN AREA

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Nov. 3.—Five new tests for the Joiner Pool, central Rusk County, makes a total of 12 tests, most of them being in the derrick stage while a couple are nearing the Woodbine sand, another is shut down below 2,000 feet, and a couple have merely spudded. The field has been discovered exactly one month and is failing to show any signs of activities being curtailed because of overproduction or recent cuts in crude. It seems the field will continue to see more locations staked every week, and more drilling tests unless a dry hole intervenes.

C. M. Joiner's No. 1 Mrs. Daisy Bradford in the Juan Ximenes Survey, the discovery well, was reported showing a little salt water on a bailer test after the new 4-inch line was run last week, but a gauge during 24 hours ending at 7 a. m. November 3 showed the well swabbing and flowing 160 bbls. with no water showing. The 24-hour period before that showed the well making 248 bbls., the volume of production fluctuating from day to day. The salt water threat does not seem to have much foundation, and is not causing much conjecture among the many interested in the area.

New Locations

The new tests located around the Joiner well are as follows: Stroube and Stroube's No. 1 Frederick in the Ximenes Survey north of the Joiner discovery; Ed L. Evans' No. 1 A. P. Finney on a 102-acre tract in the Isaac Parker Survey, north of the Joiner well and southeast of the town of London; Dillon and others' No. 1 W. H. Frederick on a 5-acre tract in the northeast corner of the Jobe tract, north of the Joiner well; J. K. Lewis' No. 1 Oscar Jones, north of the Joiner well about 2½ miles, in the W. Brown Survey; and Frank Files' No. 1 Robertson in southeast corner of a 50-acre tract in the R. H. Pinney Survey, northeast of the Joiner discovery.

The Arkansas Fuel Oil Co.'s No. 1 Worrel, southeast of the Joiner well, is running about level with the discovery. Top of the Midway was logged at 1,175 feet, top of the Navarro at 1,920 feet, top of the Annona at 2,360 and the Pecan Gap chalk at 2,490 feet, base 2,930 feet.

Judge Towne Young of the district court, Dallas, appointed Ernest R. Tennant, banker, as receiver for the Joiner properties in Rusk County after Mr. Joiner and associates petitioned for same so that the various unit holders could be alloted their various interests and a great amount of future litigation circumvented.

The 4-inch line from the pool to a loading rack on the M-K-T Railroad near Friar has been completed and is ready to receive oil. This line was constructed by the H. L. Hunt Corporation of Shreveport, La. The Hunt interests are drilling a south offset to the Joiner well, and is down around 1,200 feet.

Lauren L. Smith's test on the W. H. Worrell farm, north of the Joiner well, is going down in a hurry, now drilling below 2,560 feet, and will probably be the third well to be drilled in in the pool. Arkansas Fuel Oil Co.'s No. 1 Worrell should be the second well to be drilled in as it is now drilling at 3,480 feet. Casing will probably be run within a few feet, as the casing in the Joiner well was set at 3,487 feet.

Van Pool

In the Van Pool, Van Zandt County, Kraft and Kelsey's No. 1 Wylie Enas, located on a narrow strip on the east side of the Sam Allen and wife and Wylie Enas farms in the John Prado Survey, looks as if it would extend production a considerable distance to the south for it is now testing at 2,953 feet with a showing of oil. The Pure Oil Co. completed its No. 1 D. O. Mayo in the same survey, this week, at a total depth of 2,951 feet flowing 100 bbls. through an eleven-sixteenths inch choke. This well is approximately 2,000 feet northwest of the Kraft and Kelsey test, and made a southern extension to the Van Field.

The Humble Oil & Refining Co. completed a good producer in the Carroll district in its No. 3 Carroll which came in for an initial production of 352 bbls. in three hours through an eleven-sixteenths inch choke at a total depth of 2,938 feet. This well is in the southwest corner of the company's Mrs. E. E. Carroll 95-acre tract.

COMPLETIONS IN EAST CENTRAL TEXAS

Henderson County

George Pace's No. 1 Sarah Anthony, top Woodbine sand 3,979 feet, dry and abandoned, total depth 4,039 feet.

Hopkins County

Oklahoma-Texas Oil & Gas Co.'s No. 1 Milly Hamilton, Woodbine sand 3,650-3,710 feet, dry and abandoned, total depth 3,766 feet.

Van Zandt County

Pure Oil Co.'s No. 1 J. F. Crim, initial production pumping 3 bbls. per hour, total depth 2,981 feet. Same company's No. 1 G. C. Stewart, initial production 100 bbls., total depth 2,946 feet. Same company's No. 2 W. A. York, initial production 100 bbls., total depth 2,922 feet. Same company's No. 1 D. O. Mayo, initial production 100 bbls., total depth 2,951 feet. Same company's No. 2 M. F. Shirley, initial production 98 bbls., total depth 2,956 feet. Humble Oil & Refining Co.'s No. 3 Carroll, initial production 352 bbls. in three hours through eleven-sixteenths inch choke, total depth 2,938 feet.

Rusk County

Clem S. Clark and others' No. 1 Maude R. McCofflin, top Pecan Gap 2,050 feet, base 2,487 feet, dry and abandoned, total depth 3,265 feet.

East Central Texas Production

Daily average production of the pools in the East Central Texas area for the week ending November 1 follows:

Boggy Creek	2,990
Cedar Creek	45
Currie	305
Hill County	30
Mexia	4,905
Minerva	545
Nigger Creek	190
Powell	5,357
Richland	185
Thrall	40
Van	27,406
Wortham	670
Rusk County	40
Total	41,808
Week ending Oct. 25	43,048
Decrease	1,240

EAST CENTRAL TEXAS WILDCATS

Week Ending November 3

CHEROKEE COUNTY

Arkansas Fuel Oil Co.'s No. 1 Deaton, 330 ft. from S line, 300 ft. from E line, from 150-ac. tract in F. Calmen Heirs Sur., 3 miles SE of Jacksonville.....Drlg. 3,301 ft.

DELTA COUNTY

D. S. Hood's No. 1 J. J. Balsen, 185 feet from S and 580 feet W of Balser 40-acre tract in SE cor. T. B. Laddin Sur. .....Moving in material.

FANNIN COUNTY

E. A. Parsons et al's No. 1 Morgan in the English Sur., 3 miles NE of Savoy .....Drlg. 343 ft.; set 6⅝-in. csng.

E. M. Rogers' No. 1 McSwain, 300 ft. S and E of Michael Daly Sur., in Juana Telgando Sur., 1¼ miles NE of Lomasco .....Shut down 1,500 ft.

GREGG COUNTY

M. S. Hammond's No. 1 J. M. Hamby, 278 ft. from E line, 1,667 ft. S of Hamby 3,800-ac. tract, Martin Lant Sur. .....Drlg. 2,135 ft.

J. C. Ferrell's No. 1 J. K. Lathrop, 661 feet from N and 1,194 feet from W of 96-acre tract, William Robinson Sur. .....Derrick.

HENDERSON COUNTY

H. E. Ashburn et al's No. 1 T. E. Barry, center of Barry's 59-ac. tract in A. York Sur. .....Drlg. 3,170 ft.

E. L. Chapman's No. 1 Cade, 1,662 ft. from N and 3,354 ft. from W of No. 1, J. B. Dorsey Sur.....Shut down 944 ft.

Texas State Oil Co.'s No. 1 Skinner, 150 ft. from E and 150 ft. from S. J. Henshaw Sur. .....Drlg. 2,668 ft.; Pecan Gap 2,510-2,603 ft.

HUNT COUNTY

Branson et al's No. 1 West, 350 ft. N, 350 ft. W of W 60-ac. tract, Jas. Rooces Sur. .....Shut down 3,294 ft.

Mamie S. Hammond's No. 1 W. H. Adams, center of survey, west of Branson Sur., J. A. McFarland Sur. ....Derrick blew down.

KAUFMAN COUNTY

Shaw & Alexander's No. 1 Barrow, 2,360 ft. S and 200 ft. W of R. A. Terrell Sur., 4½ miles N of McCoy .....Shut down 3,518 ft.

LAMAR COUNTY

Everett & Allen's No. 1 Guest, 250 ft. S and 2,046 ft. E of 100-ac. tract, L. Roberts Sur. .....Spudded and shut down.

NAVARRO COUNTY

Young et al's No. 1 Farmer, 700 ft. from S and 400 ft. from E of 110-ac. farm in Finley Sur. .....Shut down 960 ft.

POLK COUNTY

Sunshine Oil Co.'s No. 1 J. A. Collins, 313 ft. from NE 150 ft. from SE at right angles to line, A. Viesea Sur..Shut down 3,000 ft.

RAINS COUNTY

Everett & Morrison's No. 1 Franklin, 640 ft. from S and E of 75-ac. tract in John Christian Sur., 6 miles SE of Emory .....Spudded and shut down.

RED RIVER COUNTY

Buffington et al's No. 1 L. H. Moore, 160 ft. from S and 160 ft. from W of 100 acres, Daniel Cornelius Sur. .....Material (rotary test).

Stroube and Stroube's No. 1 H. Frederick, 156 ft. from N and 500 ft. from W of SE of Frederick 195 acres, Juan Ximenes Sur. .....Spudding (rotary).

Ed L. Evans' No. 1 A. P. Finney, 150 ft. from W of E 20 acres of 102-ac. tract, Isaac G. Parker Sur. .....Location.

Dan Dillon et al's No. 1 W. H. Frederick (Jake), 150 ft. from E and 150 ft. from S of 50-ac. tract, Juan Ximenes Sur. .....Rotary rig.

J. R. Lewis' No. 1 Oscar Jones, 250 ft. from W and 150 ft. from N of railroad, Brown Sur. .....Moving in material for rotary rig.

Frank P. Fuler's No. 1 Robertson, 150 ft. from E and 150 ft. from S Robertson 50-ac. tract, R. H. Pinney Sur. .....Derrick (rotary).

A. A. Malone's No. 1 William Camp, 150 ft. from E and 150 ft. from S, Juan Ximenes Sur. .....Location.

RUSK COUNTY

Arkansas Fuel Oil Co.'s No. 1 J. A. Worrell, 7,361 ft. from N and 5,361 ft. from E. Juan Ximenes Sur. ....Drlg. 2,920 ft.

Frank Foster et al's No. 1 Ashby, 200 ft. from N and 250 ft. from E of 75-ac. tract, Juan Ximenes Sur....Drlg. 1,650 ft.

Alford et al's No. 1 W. L. Thrash, 1,103 ft. from N and 420 ft. from E of SE cor. of B. Smith Sur. .....Derrick.

C. M. Joiner's No. 3 Bradford, Juan Ximenes Sur. .....Bailed and swabbed 523 bbls. in 24 hrs. Oct. 31; showed lit. e water.

Mass et al's No. 1 Matthews, 3,244 ft. from N, 4,356 ft. from E. Dalines Cartinas Sur. .....Derrick down.

Rosenfield's No. 1 L. A. Pinkston, 150 ft. from N and 262 ft. from W of Pinkston 77-ac. tract, Maria V. Pens Sur. .....Shut down 2,015 ft.

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Kimbrough and others' No. 1 Bradford, 150 ft. from N and 150 ft. from E of lot No. 2, Juan Ximenes Sur...Building derrick.
Lauren L. Smith's No. 1 W. H. Worrel, 333 ft. from N and 6,442 ft. from E of Juan Ximenes Sur.....Drlg. 2,130 ft.
Tex-Lloyd Oil Co.'s No. 1 Camp, 150 ft. from E and 150 ft. S of 5-ac. tract, Juan Ximenes Sur. .....Derrick material (rotary).
L. H. Hunt's No. 1 Bradford, 1,269 ft. W and 1,083 ft. S of SW cor. of J. T. Moore's 100 acres, Juan Ximenes Sur. .....Drlg. 1,754 ft.
Bateman et al's No. 1 Lois Della Crim, 3,088 ft. W along N line of survey of NE cor. and 400 ft. S at right angles to N line of survey, E. G. Serien Sur. .....Will spud (rotary).

SMITH COUNTY

Owens & Sloan Oil Co.'s No. 1 Stearns, 846 ft. along W lines of John Waller Sur. from NE cor. of J. O. Dillard Sur., and 80 ft. E at right angles to W line of J. Waller Sur. .....Shut down 3,225 ft.
Sun Oil Co.'s No. 1 D. McGehee, 500 ft. W and 250 ft. S of SW cor. of Mrs. Julia Phillips 55-ac. tract, Thomas Quevado Sur. .....Drlg. 1,919 ft.
Thayer & Rogers' No. 1 Willingham, 150 ft. N and W of 14.5-ac. tract, Jacob Hernin Sur. .....Drlg. 1,600 ft.
Winona O. & G. Co.'s No. 1 Freeman, 150 ft. from S, W of 59-ac. tract in A. J. Legrone Sur., 4 miles SE of Winona .....Shut down 3,509 ft.

TITUS COUNTY

Deep Rock Oil Co.'s No. 1 Ed McElroy, C of 100 acres, K. Lewis Sur. .....Derrick.

VAN ZANDT COUNTY

L. R. Barton's No. 1 Wamble, 300 ft. from S and W of 100-ac. tract in Pleasant Young Sur. .....Derrick.
D. H. Byrd's No. 1 W. H. Mawes, 150 ft. from S and 150 ft. from W. J. Piles Sur. .....Drlg. 4,610 ft.
Cranfill & Germany's No. 1 Swain, 127 ft. N and 50 ft. from W of excess strip on W side of O. L. and L. L. Swain farm .....Shut down 14 ft.
T. Daniels' No. 1 Fannie Cumbine, 185 ft. S and 175 ft. E of NW cor. 156-ac. tract, John Wright Sur. .....Temporarily abnd.
Dennis Oil Co.'s No. 1 C. W. Morris, 100 ft. from N and 300 ft. from E lines of Morris 160-ac. tract in C. L. Morris Sur., 5 miles SE of Ben Wheeler .....Temporarily abnd.
Hartt Oil Co.'s No. 1 Dr. L. M. Cox and A. C. Night Sur., 1,785 ft. N of S line and 524 ft. E of W line ....Shut down 200 ft.
Humble Oil & Ref. Co.'s No. 1 A. J. Fowler, 150 ft. from S and E of farm, John Walling Sur. .....Rig.
Humble Oil & Ref. Co.'s No. 5 R. S. Blake, 150 ft. from N and 150 ft. from E of SW cor. of Mrs. E. E. Carroll farm, John Walling Sur. ..... Location
Humble Oil & Ref. Co.'s No. 6 R. S. Blake, 150 ft. from N and 150 ft. from W of SW cor. of Mrs. E. E. Carroll farm, elevation 485 ft; John Walling Sur. .....Location
J. C. Fare's No. 1 P. S. Hand, C of Hand's 50-ac. tract, William Shuman Sur. .....Building derrick.
Humble Oil & Ref. Co.'s No. 2 Sanger, 506 ft. from N and 200 ft. from W, John Walling Sur. .....Location.
Pure Oil Co.'s No. 2 A. W. Ellison, 200 ft. N of S line and 225 ft. W of E line of lease, James Rase Sur. .....Location.
Pure Oil Co.'s No. 2 A. D. Clark, 203 ft. from N of S line and 110 ft. W of E line of lease, John Walling Sur. .....Location.
Pure Oil Co.'s No. 2 J. T. Taylor, 202 ft. from W of E line and 150 ft. from S of N line, John Walling Sur. .....Location.
Pure Oil Co.'s No. 1 L. A. Smith, 150 ft. from N of S line and 139 ft. W of E line of lease, John Walling Sur. .....Location.
Pure Oil Co.'s No. 1 R. D. Clark 42 acres, 200 ft. S of N line and 150 ft. E of W line, A. H. Wiley Sur. ....Cement setting 2,748 ft.
H. Helms et al's No. 1 Bogue, 647 ft. W and 155 ft. S of SE cor. of J. M. Brown 70-ac. in Marshall University Sur., SE of Van .....Shut down 1,780 ft.
B. P. Hervey's No. 1 Foster & Smith, 150 ft. S and 150 ft. W of 104-ac. tract, Margaret Neal Sur. .....Shut down 4,601 ft.
Howard & Dooley's No. 1 Elliott 188-ac. tract in W. H. Bundy Sur. .....Derrick.
Humble Oil & Ref. Co.'s No. 1 L. A. Dowdle, 1,027 ft. N of S line and 150 ft. E of W line, William Daniel Sur..Temp. abd. 2,987 ft.
Imperator Oil Co.'s No. 1 G. J. Luther, in SW cor. G. J. Luther 32-ac. tract .....Plug; T. D. 3,032 ft.; will plug back; showed salt water.
Imperator Oil Co.'s No. 2 G. W. Carter, 175 ft. from S and 35 ft. from W of G. W. Carter 171-ac. tract, William Daniel Sur.....Shut down.
Jenkins et al's No. 1 V. T. Davis, SE cor. of 139.8-ac. tract, Nacogdoches County School Land.....Pumped 25 bbls. in 3 days; total depth 3,031 ft.
Kraft & Kelsey's No. 1 Enas in Vacancy strip on E side of Sam Allen and Wylie Enas farms in J. Prado Sur..Testing 2,953 ft.; slight show oil; will bail and swab.
Priest et al's No. 1 Blewitt, 175 ft. NW and SW of SE cor. of NW 84-ac. tract, E. Porter Sur.....Shut down 3,212 ft.
Pure Oil Co.'s No. 1 I. W. Thompson, 1,320 ft. SW of SW line of Nacogdoches County School Land Sur. and 225 ft. from SE line of lease in Mund Gross Sur. .....Drlg. 2,548 ft. (rotary).
Pure Oil Co.'s No. 2 O. L. Swain, 200 ft. N of S line and 250 ft. E of W line of lease in John Walling Sur. .....Drlg. 296 ft.
Pure Oil Co.'s No. 3 W. F. Swain, 250 ft. N of S line and 200 ft. E of W line in John Walling Sur..... .Drlg. 856 ft.
Pure Oil Co.'s No. 2 Mary P. Neills 100-acre tract, 225 ft. E of W line and 658 ft. S of N line, James Rose Sur. .....Drlg. 200 ft.
Pure Oil Co.'s No. 1 H. C. Gilbert, 62-ac. tract, 250 ft. W of E line and 250 ft. S of N line, Mund Grass Sur. .....Derrick corners in.
Pure Oil Co.'s No. 1 Sam Allen, 335 ft. E of W line and midway between N and S line of lease, J. Prado Sur. .....Cement setting 309 ft. (rotary).
Pure Oil Co.'s No. 1 R. E. Cade, 225 ft. S of N line and 623 ft. E of W line of lease in A. McPhail Sur. .....Drlg. 2,430 ft. (rotary).
Pure Oil Co.'s No. 1 A. J. Tunnell, 250 ft. S of N line and 200 ft. W of E line of lease in Mund Gross Sur. .....Preparing to run testing tool 3,013 ft. (rotary).
Pure Oil Co.'s No. 1 Davis, 127 ft. from S and 200 ft. from W of 139-ac. tract, Nacogdoches County School Land .....Derrick standing.
Pure Oil Co.'s No. 1 Mertie Elliott 161-ac. tract, 217 ft. E of W line and 672 ft. S of N line of lease, A. H. Wiley Sur. .....Putting on christmas tree; total depth 2,933 ft.
Vitek Oil Co.'s No. 1 Smith, 150 ft. S and 15 ft. from W of L. A. Smith 40-ac. farm in John Walling Sur...Derrick.
The Texas Company's No. 2 R. A. Tunnell 100 acres, 250 ft. S of N line and 200 ft. W of E line, John Walling Sur. .....Cement setting 2,800 ft.
Maud Powell's No. 1 Killam, 1,360 ft. from NW, along SW line from most S cor. of 52-ac. tract and 425 ft. NE to SW line, Jessie Russell Sur. ....Drlg. 2,567 ft.

WOOD COUNTY

Loche & Clark's No. 1 A. C. Pick, 165 ft. S of NE cor. G. C. Reeves 25-ac. tract, Daniel Fuller Sur....Shut down 997 ft.

CALIFORNIA MUST CURTAIL MORE IN 1931

(Continued from Page 32)

shut-in production from time to time whenever they find it necessary to do so to produce their allowable production. Playa Del Rey, in view of its present limited production, approximating 25,000 bbls. per day, cannot be expected to ffer much relief even though peak production may be reached in the near future, and the ultimate decline registered.

Effect of Kettleman Hills

It is obvious that if the above deductions, which do not sustain any hope of relief from a decline in production of present producing fields, are correct, California operators will be obliged to effect an additional curtailment beginning probably early next year. This additional reduction in production is made necessary because of the extremely high gravity oil encountered at Kettleman Hills and Belridge and the added possibility that subsequent development in Lost Hills and other San Joaquin Valley fields may reveal the existence of additional deposits of light oil. Kettleman Hills will undoubtedly be brought under unit development but this unification of work does not contemplate the limiting of production to the field's present output. The production which this field will be allowed to produce in the future has not been determined, but it is logical to assume that it will be permitted to produce its pro rata share of state production. Whether this will be determined on a barrelage basis or predicated on the relative economic value of Kettleman Hills oil remains to be seen.

The Belridge Field of Kern County, even though it might ultimately be brought under a unit development plan similar to that being considered for Kettleman Hills, is likewise entitled to produce a fair proportionate share of state production. This field, while it may be of secondary importance in comparison with the north dome at Kettleman Hills, will undoubtedly become an important economic factor in California's production. The prolific Temblor production found at North Belridge is encountered at a considerably shallower depth than the same horizon is picked up at Kettleman Hills, with the result that drilling costs will be smaller and the elapsed drilling time from spud to completion considerably shorter. The potentiality of Lost Hills so far as prolific Temblor production is concerned has not yet been determined, but in view of the development of Temblor production at Belridge it is fair to assume the Temblor will likewise be productive at Lost Hills.

Middle Dome Drilling

Drilling operations in the middle dome at Kettleman Hills will not get under way until July 1, 1931, and the productive status of this structure will not be known until the latter part of 1931 or early in 1932. If deep Temblor production is ultimately developed in this field it, too, will be entitled to produce its pro rata share of state production. The gas conservation law or some other form of obligatory regulation is the only thing which might limit the production of these prolific high pressure fields and thus prevent them from making it necessary for operators in other fields to effect additional curtailment.

The probability that additional curtailment will have to be effected next year to prevent demoralization of the general price structure will prove decidedly unfavorable to producers of heavy unrefinable crude as this heavy oil must of necessity bear the brunt of the burden because of the large amount of heavy crude and refinery residuum in storage, together with the fact that the production of residuum, resulting from the treatment of refinable crude other than that produced at Kettleman Hills and Belridge, should prove ample to meet fuel oil requirements. If refiners crack fuel oil down to the coke stage this would undoubtedly aid producers of heavy unrefinable crude as it would reduce the amount of liquid fuel oil, but this procedure hardly seems likely on the basis of anticipated future operations.

With wells at Kettleman Hills producing approximately 1 bbl. of gasoline with every 2 bbls. of crude oil, and a barrel of Kettleman Hills crude the equivalent of more than 2 bbls. of ordinary crude oil, the outlook for stabilization is not any too promising. If producers of crude oil recognize the necessity of pinching back production to the last barrel they should be able to maintain a fair price structure during the coming year, but the strongest kind of support will be necessary to accomplish this objective. Curtailment work in California has been signally successful during the past year and, while this restriction has accomplished considerable good, California is facing her greatest crisis next year when crude oil containing in excess of 75 per cent gasoline becomes a factor in state production.

COLOMBIA ENGAGES AMERICAN OIL EXPERT

WASHINGTON, D. C., Nov. 1.—The Colombian government has contracted the services of an American petroleum expert to serve as adviser according to cable information just received from Commercial Attache Walter J. Donnelly, stationed at Bogota. The many pending questions relating to the petroleum reserves of Colombia require expert knowledge that can be found only in men of wide familiarity with the industry, and the action of Colombia is accepted as an indication that troublesome leasing questions may be taken up and disposed of, instead of being allowed to drag along without effective attention as they have in the past. The name of the expert engaged by the Colombian government is not known here.

Another hopeful sign that oil interests of Colombia will be assisted to a better working basis is the fact that Congress has authorized an internal bond issue of 6,000,000 pesos, a part of which is to be used to dredge the mouth of the Magdalena River at Barranquilla and construction of port works. Considerable of this work has been done.

Crude production in Colombia in September reached 1,638,926 bbls., which was a decline from 1,747,202 bbls. in August. However, the exports increased from 1,475,160 bbls. in August to 1,615,841 bbls. in September.—C. E. K.

WILDCAT OPERATIONS IN TEXAS PANHANDLE

(Continued from Page 60)

Kewanee O. & G. Co.'s No. 3 Arnold, 330 ft. N and E, SE. Sec. 149, Blk. 3, I.&G.N. Sur. .....Drlg. 3,135 ft.
Danciger O. & R. Co.'s No. 1 McLaughlin, 330 ft. S and E, NW, Sec. 33, Blk. B-2, H.&G.N. Sur. .....T.D. 2,921 ft; spraying 150 bbls. daily.
Danciger O. & R. Co.'s No. 1 Sullivan, 231 ft. N, 224 ft. W, of E 160 ac. of S 264 ac., N½, Sec. 136, Blk. 3, H.&G.N. Sur. .....Rigging up.
Danciger O. & R. Co.'s No. 2 Sullivan, 231 ft. N, 884 ft. W of E 160 ac. of S 264 ac., N½, Sec. 136, Blk. 3, H.&G.N. Sur. .....Rigging up.
Dulaney & Word's No. 1 Morse, 330 ft. S and W, Sec. 13, Blk. A-9, H.&G.N. Sur. ..... Drlg. 1,435 ft.
Empire G. & F. Co.'s No. 2-B Archer, 330 ft. S and E, SW, Sec. 139, Blk. 3, L&G.N. Sur. .....T.D. 3,240 ft; shot 120 qts. from 3,175-3,210 ft.
Empire G. & F. Co.'s No. 1 Bell, 1,320 ft. S, 1,660 ft. E, SW, Sec. 111, Blk. 3, I.&G.N. Sur. .....Drlg. 670 ft.
Empire G. & F. Co.'s No. 1 Cantrell, 330 ft. S and E, Sec. 136, Blk. 3, L&G.N. Sur. .....Standardizing 2,397 ft.
Empire G. & F. Co.'s No. 1 Frosbier, 1,320 ft. S and E, Sec. 177, Blk. 3, L&G.N. Sur. .....Drlg. 500 ft.

Empire G. & F. Co.'s No. 1 Sullivan, 330 ft. NW of E 64 ac. of W 104 ac. of S 264 ac., of N½, Sec. 136, Blk. 3, I.&G.N. Sur. ..... Drlg. 2,490 ft.
Empire G. & F. Co.'s No. 2 Sailor, 330 ft. N and W, NE, Sec. 138, Blk. 3, I.&G.N. Sur. ..... C.O. 3,230 ft.
Jean Pet. Co.'s No. 1 Furneaux Bros., 330 ft. N and W, cor. SE, Sec. 200, Blk. B-2, H.&G.N. Sur. ..... S.D. 2,765 ft.
Magnolia Pet. Co.'s No. 1 Latham, 876 ft. N, 150 ft. E, Sec. 153, Blk. 3, I.&G.N. Sur. ..... Standardizing 3,600 ft.
Magnolia Pet. Co.'s No. 2 Heitholt, 150 ft. S, 1,156 ft. W, SE, Sec. 152, Blk. 3, I.&G.N. Sur. ..... Bldg. rig.
Magnolia Pet. Co.'s No. 2 Latham, 175 ft. N, 150 ft. E, Sec. 153, Blk. 3, I.&G.N. Sur. ..... Drlg. 1,370 ft.
Magnolia Pet. Co.'s No. 1 Morse, 330 ft. N and W, S½ NE, Sec. 5, Blk. 26, H.&G.N. Sur. ..... Rotary rig on ground.
Magnolia Pet. Co.'s No. 2 Sailor, 330 ft. S and W, E½ NE, Sec. 138, Blk. 3, I.&G.N. Sur. ..... Building rig.
Midwest Expltn. Co.'s No. 1-B Taylor, 660 ft. N and W, Sec. 7, Blk. H, A.W. Willard Sur. ..... Drlg. 1,950 ft.
Midgray Oil Co.'s No. 1 McCullough, 267 ft. N, 150 ft. E of 346.9 ac. in Sec. 153, Blk. 3, I.&G.N. Sur. ..... Drlg. 2,065 ft.
Nelson et al's No. 1 Crews, 330 ft. S and E, NW, Sec. 13, Blk. 25, H.&G.N. Sur. ..... Fishing for bit; T.D. 2,620 ft.
North American O. & G. Co.'s No. 1 Duncan, 810 ft. N, 660 ft. E, E½ SW, Sec. 135, Blk. 3, I.&G.N. Sur. ..... Rigging up.
North American O. & G. Co.'s No. 1 Sullivan, 1,320 ft. S and E, Sec. 160, Blk. 3, I.&G.N. Sur. ..... Cellar.
Operators R. & P. Co.'s No. 1 Arnold, 330 ft. S and E, E½ NE, Sec. 149, Blk. 3, I.&G.N. Sur. ..... T.D. 3,250 ft; 1,200 ft. oil in hole from 3,210 ft; to shoot.
Operators R. & P. Co.'s No. 1-A Arnold, 330 ft. S and W, Sec. 148, Blk. 3, I.&G.N. Sur. ..... Location.
Phillips Pet. Co.'s No. 1 Barrett, 330 ft. S, 150 ft. W, W½, N 56 ac., Sec. 1,360, Blk. 3, I.&G.N. Sur. ..... Drlg. 2,100 ft.
Phillips Pet. Co.'s No. 2 Barrett, 130 ft. N, 465 ft. W, Sec. 136, Blk. 3, I.&G.N. Sur. ..... Drlg. 540 ft.
Prairie O. & G. Co.'s No. 1 Reynolds, 330 ft. S and E, NW, Sec. 84, Blk. 3, I.&G.N. Sur. ..... Drlg. 2,760 ft; 7,000,000 ft. gas 2,590-2,760 ft.
W. A. Scott's No. 1 Cobb, 330 ft. S, 425 ft. W, N½ SE, Sec. 184, Blk. 3, I.&G.N. Sur. ..... Estimated 4,000,000 ft. gas 2,875 ft; fishing 2,975 ft.
Shamrock O. & G. Co.'s No. 1 Reynolds, 330 ft. N and E, SE SE, Sec. 84, Blk. 3, I.&G.N. Sur. ..... 25,000,000 ft. gas 2,810-25 ft; running 6-in. csg. at 2,940 ft.
Skelly Oil Co.'s No. 1 Vicars, 330 ft. N and E, W½, Sec. 127, Blk. 3, I.&G.N. Sur. ..... T.D. 3,290 ft; T.P. 3,225 ft; swbd. 260 bbls. in 12 hrs.
Skelly Oil Co.'s No. 1 Heitholt, 150 ft. N, 3,306 ft. W, Sec. 153, Blk. 3, I.&G.N. Sur. ..... Drlg. 2,070 ft.
Skelly Oil Co.'s No. 2 Vicars, 330 ft. N and W, SW, Sec. 127, Blk. 3, I.&G.N. Sur. ..... Drlg. 3,085 ft.
Smith's No. 1 Morse, 200 ft. S, 330 ft. W, Sec. 6, Blk. 26, H.&G.N. Sur. ..... 3,000,000 ft. gas 2,150-70 ft; S.D. 2,892 ft; 400 ft. oil in hole.
Southern Pet. Expltn. Co.'s No. 1 Baird, 330 ft. S and W, NW, Sec. 127, Blk. 3, I.&G.N. Sur. ..... Drlg. 2,410 ft.
Southern States Gas Co.'s No. 1 Case, 330 ft. N and W, E½, Sec. 181, Blk. B-2, H.&G.N. Sur. ..... Cellar.
Sullivan & Ochiltree's No. 1-A Morse, 330 ft. S and W, N¼ NE, Sec. 15, Blk. A-9, H.&G.N. Sur. ..... Rig.
The Texas Co.'s No. 2 Brown, 150 ft. S, 330 ft. W of 247-ac. lease, Sec. 137, Blk. 3, I.&G.N. Sur. ..... Drlg. 1,185 ft.
Yon et al's No. 1 Morse, 330 ft. S and W, N½ SW, Sec. 17, Blk. A-9, H.&G.N. Sur. ..... Cellar.

HUTCHINSON COUNTY

Dixon Creek Oil Co.'s No. 1 Johnson Bros., 330 ft. N and W of E 60 ac. of NW 100 ac., Sec. 1, Blk. X03, H.&O.B. Sur. ..... Drlg. 2,610 ft.
Great Plains O. & G. Co.'s No. 1 Sanford, C of S 160 ac. of N 320 ac., Sec. 57, Blk. 46, H.&T.C. Sur. ..... Drlg. 2,750 ft.
Huber Prod. Co.'s No. 1 Johnson Bros., 330 ft. N and E, E½ NW, Sec. 30, Blk. Y, A.&B. Sur. ..... Drlg. 2,800 ft.
Huber Prod. Co.'s No. 1 Johnson Bros. (Pure), 330 ft. S and E of E 240 ac., Sec. 29, Blk. Y, A.&B. Sur. ..... Drlg. 3,000 ft.
Texas Interstate P. L. Co.'s No. 1 Bivins, C E½ of N 160 ac., Sec. 91, Blk. 6, H.&T.C. Sur. ..... Cellar.
Lanier et al's No. 1 Johnson Bros., 990 ft. S, 330 ft. E, W½ SE, Sec. 29, Blk. Y, A.&B. Sur. ..... Spudded.
Phillips Pet. Co.'s No. 1-A Pease, 330 ft. S, 330 ft. E, Sec. 9½, Z. E. Collier Sur. ..... T.D. 3,100 ft; T.P. 3,075 ft; C.O. to shoot; S.O. 3,039 ft.
Prairie O. & G. Co.'s No. 1 Read, C SW, J. M. McDonald Sur. ..... Drlg. 3,040 ft.
Sinclair O. & G. Co.'s No. 1-C Johnson Bros., 330 ft. N and W, NE, Sec. 32, Blk. Y, A.&B. Sur. ..... Drlg. 2,700 ft.
Sinclair O. & G. Co.'s No. 1-A Johnson Bros., 330 ft. N, 430 ft. E, NW, Sec. 32, Blk. Y, A.&B. Sur. ..... Rig.
Skelly Oil Co.'s No. 1 Johnson Bros., 660 ft. S and W, SE, Sec. 30, Blk. Y, A.&B. Sur. ..... S.O. 3,065 ft. and 3,108-10 ft; S.D. 3,110 ft.
Spurlock et al's No. 1-A Christian, 440 ft. S, 330 ft. W, NE cor. SE SE, Sec. 33, Blk. Y ..... 60,000,000 ft. gas; S.D. 3,219 ft.
Stansylvanian Oil Co.'s No. 1 Whittenburg, 330 ft. S and W, Sec. 129, Blk. Z, E.L.R.R. Sur. ..... S.D. 3,075 ft.

LIPSCOMB COUNTY

Brown et al's No. 1 Box T Ranch, SW NE, Sec. 612, H.&T.C. Sur. ..... S.G. 3,760 ft; S.D. 4,142 ft.
Okla. Public Service Co.'s No. 1 C. W. Jones, NE SW, Sec. 100, H.&T.C. Sur. ..... Lowering 5 3/16-in. csg; T.D. 5,003 ft.

LUBBOCK COUNTY

Center Oil Co.'s No. 1 Bowles Ranch ..... Small S.O. 1,133-40 ft; S. D. 4,167 ft.

MOORE COUNTY

Dana O. & G. Co.'s No. 1 R. Utey, 330 ft. N, 330 ft. E. W½ SE, Sec. 135, T.&N.O. Sur. ..... Rig on ground.
Delmar Oil Co.'s No. 1-A Jones, 330 ft. N, 990 ft. E, NW, Sec. 171, Blk. 3-T, T.&N.O. Sur. ..... Drlg. 2,850 ft.
Home Gas Co.'s No. 1 Reeder, 330 ft. N and W, N½ E½ NE, Sec. 191, Blk. 3-T, T.&N.O. Sur. ..... Standardizing 3,135 ft.
Morton et al's No. 1 Rupert, 660 ft. N, 330 ft. E, NW, Sec. 191, Blk. 3-T, T.&N.O. Sur. ..... Cellar.
Shamrock O. & G. Co.'s No. 1 Sullivan, 330 ft. S and E, NE, Sec. 139, Blk. 3-T, T.&N.O. Sur. ..... Rotary rig.
Sunray Oil Co.'s No. 1 C. R. Jones, 330 ft. E, 330 ft. S, W½ SW, Sec. 164, T.&N.O. Sur. ..... S.D. 2,650 ft.
Sunray Oil Co.'s No. 2 Jones, 330 ft. S, 990 ft. E, W½ SW, Sec. 164, Blk. 3-T, T.&N.O. Sur. ..... Rig on ground.
Shamrock O. & G. Co.'s No. 1 Coffee, 330 ft. E, 330 ft. N, E 160-ac. tr., Sec. 355, H.&T.C. Sur. ..... Drlg. 3,490 ft.
Texas Interstate P. L. Co.'s No. 1 Sneed, Jr., C NE, Sec. 48, Blk. 6-T, T.&N.O. Sur. ..... Drlg. 2,340 ft.
Texas Interstate P. L. Co.'s No. 1 Sneed, Jr., C NE, Sec. 6, Blk. B-10, E.L.&R.R. Sur. ..... Drlg. 400 ft.

MOTLEY COUNTY

Matador Oil Corp.'s No. 1 Owens, C NE, Sec. 10, Blk. G, B.&B. Sur. ..... S.D. 580 ft.

OLDHAM COUNTY

Amalgamated German-American Oil Corp.'s No. 1 Norton, 330 ft. S and E, Sec. 12, T.&N.O. Sur. ..... Rotary rig.
Chambers et al's No. 1 Herring, CNL, Sec. 29, Blk. 8, G.C.&S.F. Sur. ..... S.D. 680 ft.

POTTER COUNTY

Canadian River Gas Co.'s No. 1 McBride estate "A," 4,950 ft. S, 330 ft. W, E½ S½, Sec. 98, Blk. 44, H.&T.C. Sur. ..... S.D. 2,090 ft.
Texas Interstate P. L. Co.'s No. 1 Rockwell, C N½ of S½, Sec. 102, Blk. 46, H.&T.C. Sur. ..... Location.

RANDALL COUNTY

W. A. Patterson's No. 1 Palo Duro, Sec. 60, Blk. K-14 ..... S.D. 1,250 ft.

WHEELER COUNTY

Guernsey Oil Co. et al's No. 1 Sewell, 330 ft. N and E, Sec. 38, Blk. 13, H.&G.N. Sur. ..... Drlg. 1,075 ft.
McGee et al's No. 1 Jolly, C NE, Sec. 15, Blk. A-8, H. &G.N. Sur. ..... S.D. 2,100 ft.
Mid-Kansas O. & G. Co.'s No. 1 Harvey, 660 ft. S and W, NE, Sec. 56, Blk. 23, H.&G.N. Sur. ..... Spudding.
Wischkamper et al's No. 1 Kiser, 330 ft. N and E of SW, Sec. 38, Blk. 17, H.&G.N. Sur. ..... S.D. 2,340 ft.
Woodley et al's No. 1 Sloss & Admire, 660 ft. N, 330 ft. E, Sec. 47, Blk. 13, H.&G.N. Sur. ..... S.D. 1,325 ft.
Vollmert's No. 1 Porter, 330 ft. S and E, NE, Sec. 15, Blk. 27, H.&G.N. Sur. ..... S.D.

WILDCAT OPERATIONS IN WEST TEXAS

(Continued from Page 59)

Skelly Oil Co. and Republic Prod. Co.'s No. 1 McKenzie, 990 ft. from S line and 330 ft. from E line of Sec. 28, Blk. 46, Twp. 2s, T.&P. Sur. ..... Shut down 3,750 ft.; flowed 110 bbls. on July 12, shut in for storage.
The Texas Company's No. 9 Connell, 330 ft. from N and 440 ft. from W of SE cor. Sec. 1, Public School Land. Drlg. 3,320 ft.

EL PASO COUNTY

Lane-The Texas Company's No. 1 Malone, 2,110 ft. from SW and NW of Section 46, J. M. Day Sur. ..... Shut down 3,089 ft.

FISHER COUNTY

Condor Pet. Co.'s No. 1 Wilson, 330 ft. from N and 1,200 ft. from W, Sec. 6, W. E. Richardson Sur. ..... Drlg. 700 ft.
Cranfill & Reynolds' No. 2 Flannigan, 330 ft. from S and E of W half of Section 200, B.B.B.&C. Sur. ..... Shut down 3,130 ft.
Cranfill & Reynolds' No. 3 Willingham, 330 ft. from S and E of Sec. 307, B.B.B.&C. Sur. ..... Shut down 3,090 ft.
The Texas Company's No. 2-A Stephens, 330 ft. from S and E, Sec. 79, Blk. 1, H.&T.C. Sur. ..... Shut down 632 ft.
The Texas Company's No. 1-B Teagarden, 1,990 ft. from S and 440 ft. from E, Sec. 8, W. E. Richardson Sur. .. Underreaming 1,450 ft.

GAINES COUNTY

Texas Consolidated Oil Co. et al's No. 1 Jones, 2,310 ft. from NE, Sec. 4, Blk. A-8, P.S.L. Sur. ..... Location.

GARZA COUNTY

Pandem Oil Corp.'s No. 1 Justice, 330 ft. from S and W of Sec. 12, Blk. 4, H.&G.N. Sur. ..... Spudded and shut down.

GLASSCOCK COUNTY

F. H. E. Oil Co.'s No. 1 Meek, 1,650 ft. N and E parallel to section lines of SW cor. Sec. 7, Blk. 34, Twp. 3s, T.&P. Sur. ..... Rotary rig.
Timberlake & Snyder's No. 1 Meek, 2,310 ft. W and 1,600 ft. N of SE cor. Sec. 7, Blk. 34, Twp. 3s, T.&P. Sur. ... Total depth 2,956 ft.; shut down.
World Oil Co.'s No. 3-C McDowell, 2,310 ft. from S and W of NE cor. Sec. 21, Blk. 34, Twp. 2s, T.&P. Sur. ... Shut down 660 ft.

HOWARD COUNTY

Cosden Oil Co.'s No. 6 Roberts-A, 200 ft. N and E of SW cor. Sec. 129, Blk. 29, W.&N.W. Sur. ..... Sulphur water 1,433-46 ft.; shut down 1,456 ft.
G. F. Getty's No. 1 Snyder, Sec. 27, Blk. 10, Twp. 1s, SW cor. of NE of NE ..... Drlg. 2,190 ft.
Greene O. & R. Co. et al's No. 1 Denman, 330 ft. from N and W of E half of NE, Sec. 14, Blk. 30, Twp. 1s, T.&P. Sur. ..... Preparing to put on pump; total depth 2,780 ft.
Magnolia Pet. Co.'s No. 1 Kelley Roberts, 330 ft. S and E, Sec. 112, Blk. 29, W.&N.W. Sur. ..... Location.
Merriwether's No. 1 Smith, 150 ft. from S, 2,400 ft. from W, Sec. 45, Blk. 33 ..... 2,000 ft. water in hole; shut down 3,270 ft.; 2,000 ft. sulphur water in hole; will abandon.
Moody Oil Corp.'s No. 23-B Roberts, 990 ft. from N and W of Sec. 137, Blk. 29 ..... Shut down 261 ft.

HUDSPETH COUNTY

Theison's No. 1 University, 2,050 ft. from S and 2,225 ft. from E of Sec. 17, Blk. E ..... Spudded 35 ft. and shut down.
Western States Oil Co.'s No. 1 Gardner & Moseley, NE NW Sec. 12, Blk. 18 ..... Shut down 3,155 ft.

IRION COUNTY

Bristow et al's No. 1 Nutt, 180 ft. from NW of SW of NW Sec. 6, Gonzales County School Land ..... Total depth 1,735 ft.; plugged back to 1,458 ft.; preparing to put on pump.
Central Oil Co.'s No. 2 Horney, 150 ft. from N and 1,320 ft. from E, Sec. 3, Blk. 3, H.&T.C. Sur. ..... Shut down 270 ft.
Cromwell et al's No. 1 Tankersley, 150 ft. from N and 210 ft. from W of E half of Sec. 1,320, G.C.&S.F. Sur... Shut down 1,712 ft.; show oil 1,621-25 ft.
Straughn & Texannati Oil Co.'s No. 1 Tankersley, 150 ft. from S and 750 ft. from W of Sec. 4, Gonzales County School Land ..... Shut down 1,331 ft.; oil sand 1,220-25 ft.; filled up 200 ft. in 12 hours.
P. H. Williams' No. 1 Ash, C of Sec. 20, Washington County ..... Shut down 3,900 ft.; may drill deeper.
Williams & Williams' No. 1 Noelke, 200 ft. from N and 1,020 ft. from E, Sec. 8, City of San Antonio Sur. ..... Shut down 1,995 ft.
Webb et al's No. 1 Nutt, 150 ft. from S and 116 ft. from W of Blk. 5, Gonzales County School Land ..... Shut down 100 ft.
F. F. Webb's No. 1 W. H. Williams, 200 ft. from E and 750 ft. from S line, SW of NE Sec. 10, Gonzales County School Land ..... Shut down 100 ft.

JONES COUNTY

McBest et al's No. 1 Roberts ..... Total depth 1,000 ft.
Pope et al's No. 1 Swann, 2,023 ft. from S and 400 ft. from E of I. Miley Sur. No. 381 ..... Drlg. 2,400 ft.

LOVING COUNTY

Arkansas Fuel Oil Co.'s No. 1 Dean, 990 ft. from NE and 2,310 ft. from SE, Sec. 84, Blk. 1, W.&N.W. Sur. ..... Drlg. 3,740 ft.
Eppenauer et al's No. 1 Allen, 2,310 ft. from NE and NW lines, Sec. 90, Blk. 1, W.&N.W. Sur. ..... Drlg. 2,290 ft.
Henshaw et al's No. 2 Reagan & McElwain, 1,650 ft. from SW and 990 ft. from SE, Sec. 84, Blk. 7, W.&N.W. Sur. ..... Location.
Lockhart & Co.'s No. 3 Bowen & Wells, 330 ft. from NE and SE of Sec. 92, Blk. 1, W.&N.W. Sur. ..... Shut down 3,383 ft.
Independent O. & G. Co.'s No. 2 Wheat, 990 ft. from NW and 330 ft. from SW, Sec. 85, Blk. 1, W.&N.W. Sur. ... Drlg. 2,480 ft.
Lockhart & Co.'s No. 2 fee, 676 ft. S, 330 ft. W, Sec. 91, Blk. 1, W.&N.W. Sur. ..... Spudded 140 ft.; shut down.
Lockhart & Co.'s No. 3 Hubbard, 1,650 ft. from NE line, 330 ft. NW line of Sec. 83, Blk. 33, H.&T.C. Sur. ..... Rigged up and shut down.
Miller et al's No. 1 Chapman, 225 ft. from NW and 285 ft. from SW line, Sec. 71, Blk. 1, W.&N.W. Sur. ..... Shut down 3,800 ft.
Rush et al's No. 1 Wheat, 330 ft. from NW and SW, Sec. 77, Blk. 1, W.&N.W. Sur. ..... Cellar.
Slagel Drlg. Co.'s No. 1 Cartwright et al, 2,310 ft. from S and 990 ft. from W, Sec. 1, Blk. 57, Twp. 1, T.&P. Sur. ..... Building rig.
California Co.'s No. 5 Reagan & McElvain, 990 ft. from NW and 330 ft. from NE of Sec. 84, Blk. 1, W.&N.W. Sur. ..... Shut down 664 ft.

California Co.'s No. 6 Reagan & McElvain, 330 ft. from SW and 1,650 ft. from SE, Sec. 84, Blk. 1, W.&N.W. Sur. ..... Drlg. 100 ft.

MENARD COUNTY

Barnett et al's No. 3 Callan City Co., 330 ft. from S and W, Sec. 1, B.S.&F. Sur. ..... Shut down 1,305 ft.

Barnett et al's No. 4 Callan City Co., 1,200 ft. from S and 2,200 ft. from W, Sec. 1, B.S.&F. Sur. ..... Machine.

Panhandle Ref. Co.'s No. 2 Eckhart, 1,820 ft. from W and 1,320 ft. from S of Sec. 10, Blk. 2, T.W.N.G. Sur. ..... 500,000 ft. gas with show oil 2,945 ft.; shut down 3,200 ft.; to plug back to 2,955 ft. to save gas.

Priest's No. 1 Sorrell, 1,000 ft. from E and 200 ft. from S cor. Sec. 132, E.L.R.R. Sur. ..... Shut down 2,490 ft.

MIDLAND COUNTY

Kerwin et al's No. 1 Mathen, 2,310 ft. from N and 335 ft. from W line, Sec. 46, W. L. Gray Sur. ..... Shut down 1,230 ft.

MITCHELL COUNTY

Morrison et al's No. 2 Morrison, 2,310 ft. from N and 660 ft. from E of Sec. 31, Blk. 28, Twp. 1n, T.&P. Sur. ..... Shut down 3,112 ft.; top pay 3,038-75 ft.; shot 270 qts. 3,020-92 ft.; swabbed 40 bbls. in 24 hours.

Morrison et al's No. 1 Poe et al, 660 ft. S and 1,980 ft. W, parallel to section lines of NE cor. Sec. 8, Blk. 27, T.&P. Sur. ..... Spudded 10 ft. and shut down.

PECOS COUNTY

Bell et al's No. 1 Eaton, 2,310 ft. from NE and 990 ft. from SE, Sec. 33, Blk. 3, H.&T.C. Sur. ..... Location.

Bell et al's No. 1 Schaff & Blackman, 2,310 ft. NE and 330 ft. NW of E cor. Sec. 37, Blk. 3, H.&T.C. Sur., but located in Sec. 38, Blk. 3, H.&T.C. Sur. ..... Drlg. 635 ft.

Dittman's No. 1 Jackson, 2,310 ft. from NE and 330 ft. from NW, Sec. 28, Blk. 3, H.&T.C. Sur. ..... Moving in machine.

Dittman's No. 1 Eaton, 2,310 ft. from SW and NW, Sec. 35, Blk. 3, H.&T.C. Sur. ..... Shut down 1,580 ft.; top pay 1,574 ft.; flowing 50 bbls. per day.

Dittman's No. 2 Eaton, 990 ft. from SW and 330 ft. from SE. Sec. 35, Blk. 3, H.&T.C. Sur. ..... Location.

Dittman's No. 1 Eaton, 330 ft. from NE and SE, Sec. 37, Blk. 3, H.&T.C. Sur. ..... Location.

Humble Oil & Ref. Co.'s No. 1 Kokernot, 1,320 ft. from N line and 1,467 ft. from W line of Sec. 227, Blk. 10, G.H.&S.A. Sur. ..... Drlg. 5,725 ft.

Humble Oil & Ref. Co.'s No. 1-B Thoman, 1,608 ft. from N and 4,052 ft. from E of Sec. 98, Blk. OW, G.C.&S.F. Sur. ..... Fishing 2,730 ft.

Lewis & Siagel's No. 1 Bell, 330 ft. from N and W of SE Sec. 12, Blk. 30, Twp. 1s, T.&P. Sur. ..... Location.

McCurdy & Brown's No. 2 Tippett, 150 ft. from N and W of SE, Sec. 40, Blk. 194, G.C.&S.F. Sur. ..... Location.

McCarty Oil Co.'s No. 3 Gray, 700 ft. from N and 2,260 ft. from W, Sec. 591, G.C.&S.F. Sur. ..... Location.

Messenger et al's No. 1 Butz, 1,830 ft. from NW and 1,170 ft. from SW, Sec. 54, Blk. 10, H.&G.N. Sur. ..... Fishing 1,105 ft.

J. R. Miller et al's No. 1 Bennett, 359 ft. W of CWL Sec. 1, Blk. 119, G.C.&S.F. Sur. ..... Shut down 1,700 ft.

J. D. O'Mara's No. 1 Bennett, Sec. 593, 1,460 ft. from S 150 ft. from E, G.C.&S.F. Sur. ..... Total depth 1,230 ft.; top pay 1,089 ft.; plugged back to 1,185 ft.; will drill deeper.

J. D. O'Mara's No. 1 Streety, S of Sec. 1, W.P. Howard Sur. ..... Shut down 2,210 ft.; fishing.

Oregon Oil Corp.'s No. 2 Yates, 150 ft. from S and W of Sec. 58, Blk. 1, I.&G.N. Sur. ..... Shut down 2,440 ft.; flowing sulphur water.

Perren Oil Co.'s No. 2 Eaton, C of E of W, Sec. 27, Blk. 3, H.&T.C. Sur. ..... Fishing 1,765 ft.

Plymouth Oil Co.'s No. 1 Perry, 330 ft. from N and W, Sec. 13, Blk. 194, G.C.&S.F. Sur. ..... Total depth 1,920 ft.; top pay 1,892 ft.; flowing 25 bbs. per day.

R. W. Porpus et al's No. 1 State Land, 330 ft. S and W lines of NE, Sec. 28, Blk. OW, T.C. Sur. ..... Spudded and shut down.

Pure Oil Co.'s No. 1 Harrison 2,310 ft. from N and 330 ft. from W of Sec. 203, Blk. 3, T.&P. Sur. ..... Drlg. 3,624 ft.

Riser & White's No. 1 Riser, 2,297 ft. from S and 997 ft. from E of Sec. 24, Blk. 12, H.&G.N. Sur. ..... Shut down 405 ft.

Side & Side's No. 1 Blackstone & Slaughter, C NW of Sec. 34, Blk. A-2, T.C. Sur. ..... Drlg. 2,600 ft.

Schilling & Slaughter's No. 1 Yates, 1,580 ft. N and 150 ft. E of NW cor. Runnels County School Land, but located in Sec. 70, Blk. 1, I.&G.N. Sur. ..... Shut down 337 ft.

California Co. et al's No. 1 Thomas, 990 ft. from NW and SW, Sec. 31, Blk. 34, H.&T.C. Sur. ..... Location.

The Texas Company's No. 1 Wright, 660 ft. S and E of NW cor. Sec. 9, Blk. 131, T.&St.L. Sur. ..... Shut down 3,504 ft.

Warner's No. 1 Webb, 2,550 ft. from NW and 6,100 ft. from NE of Sec. 311, Abst. 756, C. McGinley Sur. .... Shut down 1,818 ft.

Williams & Moran's No. 1 Heiner Est., 450 ft. from N and 2,490 ft. from W of Sec. 590, G.C.&S.F. Sur. ... Drlg. 735 ft.

REAGAN COUNTY

Big Lake Oil Co.'s No. 4-C University, 1,120 ft. from N and 1,096 ft. from E of Sec. 1, Blk. 2 ..... Flowed 3,943 bbls. 24 hours ending Oct. 30; total depth 8,697 ft.

Big Lake Oil Co.'s No. 5-C University, 635 ft. from S and 900 ft. from W of Sec. 25, Blk. 9 ..... Drlg. 6,370 ft.

Slick Estate et al's No. 1 August, C SE Sec. 1,316, G.C.&S.F. Sur. ..... Rig up.

Texon O. & L. Co.'s No. 1-B University, 1,130 ft. from N and W of Sec. 26, Blk. 9 ..... Drlg. 5,230 ft.

REEVES COUNTY

R. T. Hansford's No. 1 Williams, 150 ft. from S and W, Sec. 17, Blk. 6, H.&G.N. Sur. ..... Shut down 380 ft.

Black & Kink's No. 1 Brooks, 1,980 ft. N and 660 ft. W, Sec. 16, Blk. 50 ..... Top pay 1,820 ft.; shot 15 qts. 1,821-30 ft.; shut down 1,860 ft.

Riggs & Smith's No. 1 Lee Monroe, 2,390 ft. from NE and 330 ft. from NW line, Sec. 34, Blk. 7, H.&L.N. Sur. ..... Shut down 176 ft.

Salsbury & Gregory's No. 1 Young Bell, 1,170 ft. from N and 330 ft. from E of Sec. 7, Blk. 5, H.&G.N. Sur. ... Temporarily abandoned.

Lee O. White et al's No. 1 Hershersor, 330 ft. from N and W lines of Sec. 5, Blk. 51, Twp. 10, T.&P. Sur. ... Shut down 4,415 ft.

California Co.'s No. 1 Kloh & Rumsey, 1,650 ft. from S and E of Sec. 13, Blk. 54, Twp. 4 T.&P. Sur. ..... Shut down 4,246 ft.

RUNNELS COUNTY

Dutton et al's No. 1 Dean, 5,475 ft. from NE and 1,048 ft. from NW in J. Heil Sur. No. 419 ..... Shut down 1,330 ft.

George W. Boyce's No. 1 Lang, 2,310 ft. N, 6,900 ft. E, Sec. 262 ..... Show oil 2,028 ft.; shut down 2,643 ft.

SCHLEICHER COUNTY

Delmar Oil Co.'s No. 1 O'Harrow, C of NW Sec. 56, Blk. 1, G.H.&S.A. Sur. ..... Fishing 5,577 ft.

Teas & Gant's No. 1 Allison, 1,320 ft. N and E of SW cor. of Sec. 37, Blk. K, G.H.&S.A. Sur. ..... Shut down 3,960 ft.

Wesner et al's No. 1 Nicks, 2,310 ft. from N and 2,362 ft. from E of Sec. 77, Blk. LL, T.C. Sur. ..... Shut down 750 ft.

Westvde et al's No. 1 Meador, 1,320 ft. from S and E of Sec. 461, G.C.&S.F. Sur. ..... Location.

George Wilson's No. 1 Page, Sec. 40, Blk. L, 1,290 ft. from N, 1,470 ft. from W, G.H.&S.A. Sur. ..... Shut down 5,027 ft.

SCURRY COUNTY

Camp Spring Oil Co.'s No. 1 Strayhorn, 330 ft. from S and 1,980 ft. from W of Sec. 154, Blk. 3, H.&G.N. Sur. ..... Cem. cave 875 ft.

Byrd & Harmon's No. 1 Murphy, Jr., 320 ft. from N and E of Sec. 114, Blk. 97, H.&T.C. Sur. ..... Top pay 1,750 ft.; show oil 2,812-55 ft.; shot 150 qts. 3,100-35 ft.; pumped 55 b.lm. 24 hrs.; total depth 3,501 ft.

I. B. Mimms et al's No. 1 J. J. Koonsman, Sec. 216, Blk. 2, H.&T.C. Sur. ..... Spudded and shut down.

G. E. Dickman and R. B. Pender et al's No. 1 F. C. Davis, 1,000 ft. N and 1,770 ft. W of SE cor. of Sec. 275, Blk. 2, H.&T.C. Sur. ..... Shut down 4,970 ft.

Seifert & Dibble's No. 1 T. M. Blackburn, 2,310 ft. from N and 2,310 ft. from W line of Sec. 155, Blk. 97, H.&T.C. Sur. ..... Drlg. 375 ft.

Mid-Kansas O. & G. Co.'s No. 1 Peckham, 330 ft. from S and W of R. N. Miller Sur. ..... Underreaming 4,373 ft.

STERLING COUNTY

Beesley et al's No. 1 Brown, 2,940 ft. N and 300 ft. W of SW cor. Sec. 7, Blk. 22, H.&T.C. Sur., but in Sec. 16, Blk. 21, Twp. 4s, T.&P. Sur. ..... Shut down 515 ft.

SUTTON COUNTY

Independent Oil & Gas Co.'s No. 1 Wilson, Sec. 30, Blk. A, 1,650 ft. from N, 2,310 ft. from W ..... Location.

TAYLOR COUNTY

Adams et al's No. 2 Lowe, 150 ft. from N and 750 ft. from W, Sec. 19, Guadalupe County School Land ..... Drlg. 2,100 ft.

Eastland Oil Co. et al's No. 2 Hunter, 3,418 ft. from S and 2,174 ft. from E of William R. Ellis Sur. ..... Drlg. 1,115 ft.

John B. Jameson's No. 1 Webb., 1,170 ft. S and W of NE cor. Sec. 46, Lunatic Asylum Land ..... Drlg. 6,225 ft.

Hucony Oil Co. et al's No. 1 Richie, C SE Sec. 10, Blk. A, S.P. Sur. ..... Shut down 2,570 ft.

Sanger et al's No. 1 City of Abilene, 330 ft. from S and 1,400 ft. from E of Sec. 66, Blind Asylum Land ..... Fishing 1,240 ft.

Sanger O. & R. Co.'s No. 1 Osborn, 330 ft. from SW of SE Sec. 68, Blind Asylum Land ..... Rigged up and shut down.

TERRELL COUNTY

Big Bend Oil Co.'s No. 1 Bassett, C NW Sec. 155, Blk. D, M.-K.-T. Sur. ..... Drlg. 2,615 ft.

Keck Pecos Trust Co.'s No. 1 Hamilton, C Sec. 6, Georgetown Ry. Sur. ..... Shut down 3,150 ft.

Miller Bros.' No. 1 Allison & Burke, C NW cor. Sec. 10, Blk. 176, T.&P. Sur. ..... Shut down 120 ft.

Mrs. J. B. McPhees' No. 1 Sam Belt, C Sec. 16, Blk. D-7, E.L. Sur. ..... Shut down 880 ft.; moved off machine.

Transcontinental Oil Co.'s No. 1 Goode, 2,152 ft. from E and 320 ft. from S, Sec. 26, Blk. 161, G.C.&S.F. ..... Drlg. out cement 4,730 ft.; total depth 5,229 ft.

Woodley & Jones' No. 1 Pankenham, C SE NW Sec. 43, Blk. B-2, C.C.S.D.&N.G. Sur. ..... Shut down 640 ft.

TOM GREEN COUNTY

Belding & Dutton's No. 1 Noswortny, 2,640 ft. from S and 587 ft. from E of John McNeese Sur. ..... Shut down 760 ft.; show oil and gas 725 ft.

Cosden Oil Co.'s No. 1 William Anson, 2,310 ft. S, 330 ft. W of NE cor. Sec. 20, Blk. 24, H.&T.C. Sur. ..... Location.

Fitzgerald & Taliaferro's No. 1 Bennett, C SW Sec. 1,628, E. H. Dinger Sur. ..... Plugged back to 2,405 ft. to straighten hole; shut down 2,447 ft.

Mintex Oil Co.'s No. 1 Campbell Est., 446 ft. from S and 630 ft. from W of Sec. 180, Dist. No. 11, S.P. Sur. .... Shut down 1,835 ft.

Phillips Pet. Corp.'s No. 1 Gulden, 1,250 ft. from N and 1,583 ft. W of Sec. 77, James Webb Sur. ..... Cleaning out 4,830 ft.

UPTON COUNTY

Duffey et al's No. 2 McClintic, 328 ft. N and 967 ft. E of Sec. 206, Blk. F, C.C.S.D.&R.G.N.G. Sur. ..... Drlg. 825 ft.

Gulf Prod. Co.'s No. 1 King Ranch Oil & Lignite Co., 330 ft. from S and 990 ft. from W line, Sec. 28, Blk. 2, M.-K.-T. Sur. ..... Total depth 2,753 ft.; pumped 20 bbls. in four hours.

Penn and Shell Pet. Corp.'s No. 1 Anderson, 1,320 ft. from S and E, Sec. 37, Blk. Y, C.C.S.D.&R.G.N.G. Sur. ..... Shut down 3,730 ft.

T. P. Coal & Oil Co.'s No. 1 King Ranch Oil & Lignite Co., 2,310 ft. from N and 990 ft. from W, Sec. 28, Blk. 2, M.-K.-T. Sur. ..... Machine.

Weekly Oil Corp.'s No. 1 Shirk, 468 ft. from S and 2,317 ft. from E, Sec. 15, Blk. 3, M.-K.-T. Sur. ..... Shut down 350 ft.

VAL VERDE COUNTY

Independent Operators' No. 1 Whitehead, SE SE Sec. 30, Blk. 4, I.&G.N. Sur., elev. 1,175 ft. ..... Shut down 5,360 ft.

O. O. Owen's No. 1 Mills, Sec. 128, Blk. 1, I.&G.N. Sur., elev. 2,130 ft. ..... Fishing 6,780 ft.

Phantom Oil Co.'s No. 1 Ingram, 175 ft. W of E line and 300 ft. N of S line, Sec. 33, Blk. D-8, E.L. Sur. ..... Shut down 3,035 ft.

Valvert Oil Corp.'s No. 1 Bassett, C NE Sec. 47, Blk. Y ... Shut down 4,009 ft.

WARD COUNTY

Alpine Oil Co.'s No. 2 Boogher, 2,200 ft. from NW and 1,800 ft. from SW lines, Sec. 11, Blk. 5, H.&T.C. Sur... Drlg. 645 ft.

Gulf Prod. Co.'s No. 3 Wristen Bros., 220 ft. NE of SW and 220 ft. SE of NW Sec. 18, Blk. 5, H.&T.C. Sur. .. Show gas 1,960-70 ft.; filling up with sulphur water 2,520-77 ft.; salt water 2,545 ft.; plugged back to 2,477 ft.

Magnolia Pet. Co.'s No. 1 Sealy, 330 ft. from S and E of NE cor. Sec. 46, Blk. 2, G.M.M.B.&A. Sur. ..... Drlg. 2,953 ft.

R. F. Owens' No. 1 Johnson, 100 ft. from NE and 1,100 ft. from SE of Sec. 8, Blk. 33, H.&T.C. Sur. ..... Shut down 1,200 ft.

Richardson et al's No. 5 O'Brien et al, 330 ft. from N and 2,970 ft. from W of Sec. 5, Blk. F, G.M.M.B.&A. Sur. ..... Drlg. 2,324 ft.

Rickford & Smith's No. 1 Johnson, 120 ft. NE and 175 ft. SE of N cor. Sec. 7, Blk. 32, H.&T.C. Sur., but located in Sec. 11, Blk. 5, H.&T.C. Sur. ..... Location.

California Co. et al's No. 1 Lanham, 990 ft. from NE and SE, Sec. 35, Blk. 34, H.&T.C. Sur. ..... Building rig.

Tex-Oil Prod. Co.'s No. 1 Redman, 1,980 ft. NE of SW line and 1,980 ft. SE of NW line, Sec. 152, Blk. 34, H.&T.C. Sur. ..... Shut down 5,077 ft.; hole full salt water.

T. P. Coal & Oil Co.'s No. 1 James, 330 ft. from SW and SE, Sec. 5, Blk. 34, H.&T.C. Sur. ..... Location.

Shipley et al's No. 5 Hayzlett, assume common line Secs. 16 and 17 is N and S, 220 ft. S and 1,910 ft. W, Sec. 17, Blk. 5 ..... Standard rig.

Shipley et al's No. 1 Monroe, 330 ft. SE SW Sec. 3, Blk. 1 ..... Shut down 2,520 ft.

T. P. Coal & Oil Co.'s No. 1 Barker, 330 ft. from SW and NW of Sec. 27, Blk. B-29, Public School Land ..... Total depth 2,425 ft.; shut in for storage.

California Co.'s No. 1 Allen, 2,310 ft. from NE and 330 ft. from SE, Sec. 30, Blk. 34, H.&T.C. Sur. ..... Moving in tools.

WINKLER COUNTY

Empire Gas & Fuel Co.'s No. 1-C Daugherty, 990 ft. from S and 2,310 ft. from E, Sec. 16, Blk. 74, Public School Land ..... Drlg. 2,891 ft.

Magnolia Pet. Co.'s No. 1 Bashara, 1,650 ft. from S and 2,310 ft. from W, Sec. 17, B-3, P.S.L. Sur. ..... Shut down 150 ft.

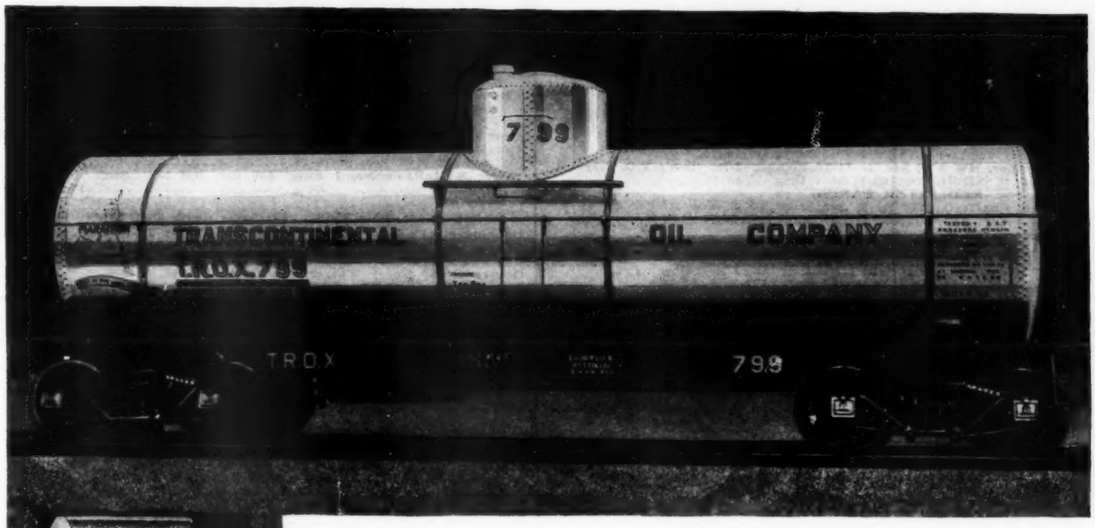
Magnolia Pet. Co.'s No. 3 Scarborough, 1,650 ft. from N and 990 ft. from W of Sec. 1, Blk. 77, Public School Land ..... Drlg. 2,605 ft.

A. W. Phillips' No. 2 Brown et al, 2,000 ft. S and W of NE Sec. 4, Blk. B-5, Public School Land ..... Shut down 3,120 ft.

Liner Drlg. Co.'s No. 1 Campbell, 330 ft. from N and E cor. Sec. 2, Blk. B-5 ..... Shut down 4,639 ft.

Turman et al's No. 1 Daugherty, 2,310 ft. from E and 2,310 ft. from S line, Sec. 16, Blk. 74, Public School Land ..... Shut down 2,666 ft.

Coated with Alcoa Aluminum Foil , , , tank cars deliver more oil



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ALCOA ALUMINUM
ROLLED INTO FOIL

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

(Continued from Page 46)

CLAIBORNE PARISH

Baird Bros. et al's No. 1 Whittaker, 600 ft. N, 400 ft. W, SE cor. NE, Sec. 30-20-7.....S.D. 2,200 ft.
Baugh et al's No. 1 Alexander, 330 ft. S, 330 ft. W, NE cor., Sec. 27-20-8.....S.D. 2,200 ft.

CONCORDIA PARISH

A. C. Glassell's No. 1 Pecania Plantation, 25 ft. S, 25 ft. W, NE cor. irregular Sec. 46-8-9.....Location.
A. C. Glassell's No. 1 Pittsfield Plantation, N 9° E, 1,320 ft., SW cor., Sec. 41-8-10.....Drlg. gumbo 1,889 ft.
Joe Marr et al's No. 1 Maxwell, C, Sec. 35-3n-8e.....Drlg. 3,410 ft.

DE SOTO PARISH

Ark.-La. P. L. Co.'s No. 3 Johnson, 1,980 ft. N, 1,320 ft. W, SE cor., Sec. 1-11-14.....Drlg. 1,729 ft.
J. W. Clark's No. 1 Tidwell, 250 ft. S, 250 ft. E, NW cor. NW, Sec. 22-13-14.....Drld. 6⅝-in. plug 2,910 ft; W.O. 2,950 ft.
S. A. Guy's No. 1 Dowling Bros., 469 ft. E, 382 ft. S, NW cor. NE, Sec. 31-14-14.....S.D; sandy shale 1,354 ft.
Bud Harrell's No. 1 Horton, 450 ft. E, 150 ft. N, SW cor., Sec. 4-11-11.....S.D. 1,060 ft.
Holly Oil Co.'s No. 1 Talbot (was Philp et al's), 220 ft. S, 730 ft. W, NE cor. NW NE, Sec. 9-13-13.....Drlg. 1,600 ft.
Keatchie O. & G. Co.'s No. 1 Hallie Smith (was H. E. Weichert's), NE SE, Sec. 31-14-15.....Drlg. 1,300 ft.
C. D. Neff et al's No. 1 H. P. Dowling, 240 ft. N, 240 ft. W, SE cor., Sec. 18-13-14.....Derrick.
Odell & Lawton's No. 1 Tidwell-Tull, 300 ft. N, 600 ft. E, SW cor. NW, Sec. 11-13-14.....Cmtng. bottom; T.D. 3,004 ft.

NATCHITOCHES PARISH

W. M. Coats' No. 1 Collins, 730 ft. N, 50 ft. E, C, Sec. 28-9-10.....Drlg. 3,116 ft.
J. W. Cooper et al's No. 1 Cooper, NW SW, Sec. 35-11-10.....Fishing 2-in. liner; T.D. 1,290 ft.
Cooper et al's No. 2-A Cooper, C SE SE, Sec. 32-11-10.....Drlg. 1,060 ft.

RED RIVER PARISH

Lucky Strike Oil Co.'s No. 1 Chaffraix, 200 ft. S, 200 ft. E, C, Sec. 33-12-10.....Coring 2,835 ft.
T. G. Shaw's No. 1 Wilkerson, 460 ft. N, 200 ft. W, SE SE, Sec. 4-13-10.....Drlg. lime 2,790 ft.

RICHLAND PARISH

Alto Gas Co.'s No. 2 Hunt, 660 ft. S and E, NW cor., Sec. 13-17-5.....Location.
W. C. Feazel's No. 1 Landrum, 620 ft. N, 4,673 ft. E, SW cor., Sec. 6-16-7.....Derrick.
Island Gas Co.'s No. 1 Noe, 1,902 ft. N, 660 ft. W, SE cor., Sec. 3-16-5.....Top Monroe gas rock 2,365 ft; bailed dry 2,419 ft. and 2,460 ft; D.S. test 2,479 ft., 2,509 ft. and 2,539 ft; S.W; S.D; gumbo 2,-549 ft.
Pelican Nat. Gas Co.'s No. 1 Faust Bros., 1,980 ft. E, 660 ft. N, SW cor. NW, Sec. 13-17-5.....Rig up.

SABINE PARISH

Boone, trustee's No. 1 Turner, 40 ft. N, 140 ft. W, SE cor. NW NW, Sec. 4-7-11.....Rig up.
Tom David's No. 1 Smith, 460 ft. N, 200 ft. W, SE cor. SE SE, Sec. 27-8-10.....Drlg. 1,550 ft.
Eylers O. & G. Co.'s No. 1 Frazier, 330 ft. S, 330 ft. W, NE cor. NW SW, Sec. 10-8-11.....Rig up.
Franks et al's No. 1 Dew, 200 ft. N, 300 ft. E, SW cor. SE, Sec. 22-8-11.....S.D. 1,250 ft.
Lacey et al's No. 1 Brown Lbr. Co., C NW NE, Sec. 28-8-10.....Rig up.
Lide et al's No. 1 Ponder, 990 ft. N, 990 ft. W, C, Sec. 15-7-11.....Top marl 2,395 ft; cmtd. 6-in. 2,-385 ft; T.D. 2,407 ft; tested dry 2,412 ft; 100 ft. oil in hole from 2,422 ft; W.O.
Lohman & Walker's No. 1 Hubley, 330 ft. N, 330 ft. W, SE cor. SE NE, Sec. 21-7-11.....Top marl 2,461 ft; cmtd. 6-in. 2,-465 ft.
Lohman et al's No. 1 Wyatt Lbr. Co., 150 ft. S, 330 ft. E, NW cor. NE SW, Sec. 18-4-11.....Rig up.
Longoria et al's No. 1 Belton, 330 ft. S, 330 ft. E, C, NE, Sec. 31-9-13.....Rig up.
Loring Oil Co.'s No. 13 Bowman-Hicks, 340 ft. N, 220 ft. W, SE cor. SW SE, Sec. 2-7-12.....Drlg. 1,850 ft.
Loring Oil Co.'s No. 1 Garner, 270 ft. N, 300 ft. E, SW cor. NW NE, Sec. 4-7-11.....Oil show 2,550 ft; bailed dry; W.O.
Magnolia Pet. Co.'s No. 1 Glauque, 484 ft. N, 390 ft. E, SW cor. NW SW, Sec. 26-7-14.....Drlg. hard lime 3,753 ft.
McDaniel's & Lieber's No. 2 Batson, 480 ft. S, 220 ft. E, NW cor. SW SE, Sec. 16-8-12.....S.D. 2,138 ft; waiting for 6-in.
Merritt et al's No. 1 La. Long Leaf Lbr. Co., S½ NE NE, Sec. 33-8-11.....S.D. 1,450 ft.
C. D. Neff, trustee's No. 1 Turner, 1,170 ft. S, 180 ft. W, NE cor. NW, Sec. 4-7-11.....D.S. test 2,595 ft; dry; W.O.
Paramount O. & G. Co.'s No. 1 Woolems, 330 ft. N, 330 ft. W, SE cor. NE NW, Sec. 11-6-12.....Cmtd. 6-in. 2,310 ft.
Pelican Nat. Gas Co.'s No. 5 La. Long Leaf Lbr. Co., 200 ft. S, 200 ft. W, NE cor. NW SW, Sec. 4-7-11.....Coring 2,325 ft.
D. H. Riddick's No. 1 Scretchfield, 400 ft. E, 400 ft. N, SW cor. NW SE, Sec. 18-9-12.....Made 30-ft. hole 3,280-3,310 ft; S.D.
Sabine Synd.'s No. 1 G. Pence, 330 ft. N, 330 ft. E, SW cor. SE NW.....Location.
H. T. Stacey et al's No. 1 Polly, NE cor. NE NE, Sec. 18-8-12.....Rig up.
Toteco Oil Co.'s No. 1 La. Long Leaf Lbr. Co., 325 ft. S, 100 ft. W, NE cor. NW, Sec. 18-6-12.....Cmtd. 6⅝-in. 2,984 ft; T.D. 4,-077 ft.
Wilson & Son's No. 1 Ganby-Garrett, NW SW, Sec. 4-5-12 (portable rig).....U.R; T.D. 1,050 ft.

TENSAS PARISH

Seip et al's No. 1 Fowler, C SW NE, Sec. 10-10-10.....Began drlg. Oct. 25; drlg. 308 ft.
Stoval Drlg. Co.'s No. 1 Miller, NE SW, Sec. 18-10-10.....Small show S.W, no gas 705-12 ft; W.O; old T.D. 1,560 ft.
A. R. Willis et al's No. 1 Currey, 1,320 ft. S, 1,320 ft. E, NW cor., Sec. 39-11-13.....S.D. 2,780 ft.

WEBSTER PARISH

Coyle trustees' No. 1 Fraser, 300 ft. N, 200 ft. E, SW cor. NE SE, Sec. 27-23-11.....Derrick.

WEST CARROLL PARISH

Ark.-La. P. L. Co.'s No. 1 Griffith, 660 ft. S, 660 ft. W, NE cor. NE NW, Sec. 17-22-10.....Drlg. shale and boulders 2,715 ft.

ARKANSAS

CHICOT COUNTY

H. R. Smith's No. 1 Lytle, 660 ft. N, 660 ft. E, C, Sec. 31-18-3.....Arranging D.S. test 2,891-2,903 ft.

CLAY COUNTY

S. C. Jeffries, trustee's No. 1 Underwood, 510 ft. N, 350 ft. W, C, NW SE, Sec. 4-20-8.....Tested estimated 1,000,000 ft. gas 280 ft; drlg. 320 ft.

CLEBURNE COUNTY

Cosden Oil Co. of Ark.'s No. 1 Donophan, 100 ft. S, 660 ft. E, NW cor. SW SE, Sec. 19-9-10.....Milling on junk; T.D. 3,640 ft.
Donnelly-Craver et al's No. 1 Donophan Lbr. Co., SE cor. NW, Sec. 33-11-9.....S.D. repairing rig; T.D. 3,410 ft.

COLUMBIA COUNTY

J. W. Olvey et al's No. 1 Kate George, 200 ft. N, 245 ft. E, SW cor. NW SW, Sec. 29-18-20.....Began drlg. Oct. 25; cmtd. 12½-in. 290 ft.

GARLAND COUNTY

Givens et al's No. 1 Garrett, 660 ft. S, 660 ft. W, C, Sec. 1-3-19.....Drlg. lime 3,765 ft.

HOT SPRINGS COUNTY

Anisman et al's No. 1 Hinson est., NE NE, Sec. 19-4-16 (portable rig).....S.D. title work; 1,354 ft.
John Watkins' No. 1 Cunningham (was J. R. Lockhart's), 285 ft. S, 285 ft. W, NE cor., Sec. 11-5-16.....Began drlg. Oct. 22; drlg. 100 ft.

LAFAYETTE COUNTY

McIver et al's No. 1 Hottle, NW cor. NE, Sec. 1-20-6.....Derrick.

LINCOLN COUNTY

B. F. Thompson, trustee's No. 1 McGhee, 330 ft. S, 150 ft. W, C, Sec. 8-8-7.....Rigging up.

LITTLE RIVER COUNTY

A. L. Buck's No. 1 Greason, NW NW, Sec. 25-12-32.....S.D. 2,502 ft.

LOGAN COUNTY

Ark.-La. P. L. Co.'s No. 1 Jno. Jansen, 350 ft. S, 455 ft. E, NW cor. NE NE, Sec. 35-8-24.....Location.
J. H. Flowers' No. 1 J. H. White, Sec. 13-6-26.....U.R. 5 3/16-in. 3,570 ft; T.D. 3,-610 ft.

MADISON COUNTY

(Cable tools)

J. W. Baxter's No. 2 Hallem, C, Sec. 17-16-26.....Reaming to bottom; T.D. 275 ft.

MILLER COUNTY

Bullock Oil Co.'s No. 1 Hervey, SE NE, Sec. 33-14-26.....Began drlg. Oct. 26; cmtd. 12-in. 152 ft.
East Texas O. & G. Co.'s No. 1 Harvey, 500 ft. E, 300 ft. S, NW cor., Sec. 2-15-26.....2-ft. sand 888 ft. dry; S.D; W.O. 890 ft.
E. & F. Oil Co.'s No. 1 E. L. Beck, 200 ft. S, 200 ft. E, NW cor. SW, Sec. 36-15-26.....D.S. test 2,804 ft; 500 bbl. S.W.; 10 bbls. oil; flowed 125 bbls. fluid 10% oil, 2,814 ft; coring sand and shale 2,830 ft.
Fitzwater et al's No. 1 Beck, 200 ft. N, 200 ft. W, SE cor. SW SE, Sec. 33-15-26.....Began drlg. Oct. 13; cmtd. 10-in. 93 ft.
Lenz et al's No. 2 Johnson, SE cor., Sec. 24-15-16.....Coring 3,050 ft.
Lenz et al's No. 3 Johnson, 250 ft. W, 150 ft. N, SE cor. NE NW, Sec. 24-15-26.....Derrick.
Salzer & McRae's No. 1 Rose, SW cor. NE NW, Sec. 9-16-26.....Began drlg. Oct. 11; cmtd. 10-in. 98 ft.

OUACHITA COUNTY

Belmont et al's No. 1 Buck, SE cor. SE SW, Sec. 16-15-17.....Coring sand and volcanic ash 2,-865 ft.
Copenhaven et al's No. 1 Elliott, Sec. 11-15-17.....Cmtd. 10-in. 62 ft.
Graves Bros.' No. 1 Walker, 350 ft. N, 280 ft. E, SW cor., Sec. 9-14-18.....Small S.O. 1,861 ft; tested dry; cored sandy shale 1,861-73 ft; W.O.S.R. 1,873 ft.
A. B. Turner, trustee's No. 1 Dave Brown, 220 ft. N, 220 ft. E, SW cor., Sec. 23-15-18.....Sidetracking D.S; T.D. 2,183 ft.

PIKE COUNTY

E. R. Henderson's No. 1 Tilyou, 660 ft. W, 500 ft. S, NE cor. NE SE, Sec. 26-8-14.....Drlg. 1,270 ft.

POPE COUNTY

Ark.-La. P. L. Co.'s No. 2 McFaddin, 685 ft. N, 485 ft. W, SE cor. NE SW, Sec. 15-9-21.....Cmtd. 13⅜-in. 1,900 ft.

SCOTT COUNTY

Ark. Valley Gas Co.'s No. 1 Turner, C SE, Sec. 27-5-30.....Location.
Heavener O. & G. Co.'s No. 1 Riser, Sec. 36-4-26.....Fishing tools 1,530 ft.

SEBASTIAN COUNTY

Lavaca O. & G. Co.'s No. 1 Davis, C NW NE, Sec. 29-8-30.....Began drlg. Oct. 15; cmtd. 8-in 200 ft; drlg. 600 ft.

UNION COUNTY

S. B. Hickman's No. 1 Hogg, 330 ft. S, 150 ft. E, NW cor. SE SE, Sec. 35-16-17.....S.D. 2,575 ft.
H. L. Hunt's No. 1 Swilly, 330 ft. S, 330 ft. W, NE cor., Sec. 28-16-16.....Drlg. 2,475 ft.
H. L. Hunt's No. 1 Trammell, 240 ft. S, 330 ft. E, NW cor. SW NW, Sec. 28-18-13.....O.W.D.D; dry and abd. 2,886 ft; coring 4,052 ft.
Marine Oil Co.'s No. 5-A Thompson, 330 ft. S, 330 ft. W, NE cor. SW NE, Sec. 10-18-13.....Derrick.
Marine Oil Co.'s No. 1-F Winn, Sec. 10-18-13.....Hole full fluid 50% S.W; waiting on air; T.D. 3,604 ft.
Modisette Drlg. Co.'s No. 4 Union Sawmill, 330 ft. W, 300 ft. N, SE cor., Sec. 14-18-14.....Location.
Oil Field Corp.'s No. 1 Simmons, 330 ft. S, 330 ft. E, NW cor., Sec. 13-18-13.....Arranging D.S. test 8-ft. sand; T. D. 2,301 ft.

VAN BUREN COUNTY

Glenn Kohle et al, trustee's No. 1 Scalan, 200 ft. S, 200 ft. W, NE cor. SE NW, Sec. 5-19-13.....S.D. 50 ft.

WASHINGTON COUNTY

(Cable tools)

Delbert & Graves' No. 1 Cunningham, Sec. 14-15-32.....S.D; W.O. 602 ft.
C. H. Willoughby's No. 1 Jones, Sec. 34-16-30.....Pulling csg. to ream; T.D. 1,697 ft.
Lincoln Leaseholding Synd.'s No. 1 Lincoln, Sec. 30-15-32.....U.R. 8-in. to T.D. 1,500 ft.
H. H. Taylor et al's No. 1 Runny, C NE SW, Sec. 1-13-29.....S.D. for csg. 1,165 ft; (C.D.).

YELL COUNTY

(Cable tools)

Tegmeier & Luckett's No. 1 Falcon, Sec. 36-7-21.....Fishing tools 5,710 ft.

EAST TEXAS

BOWIE COUNTY

Joe Burnham et al's No. 1 G. W. Burnett, 150 ft. W, 400 ft. S, NE cor. G. W. Burnett 76 ac., in W. H. Janes Sur.....Coring shale 2,670 ft.
Maud-Redwater Oil Co.'s No. 1 Merritt, 175 ft. N, 175 ft. E, SE cor. G. W. Hardige 100-ac. tract on Floyd Merritt tract in Y. S. McKinney Sur.....Derrick.

CAMP COUNTY

McDonald Bros.' No. 1 Tillery, 150 ft. E, 450 ft. S, NW cor. 137-ac. tr., in J. H. Murphy Sur.....Cored sand 3,510-16 ft; drlg. 3,-600 ft.

CASS COUNTY

Wesley Morse et al's No. 1 Henderson, 800 ft. E, 1,100 ft. S, NW cor. C. E. Bailey Sur.....Location.
Phillips Pet. Co.'s No. 1 J. R. Olds, 300 ft. N, 170 ft. E, SW cor., J. A. Stephenson Sur.....Began drlg. Oct. 21; cmtd. 14-in. 210 ft; drlg. 250 ft.
John C. Rogers' No. 1 I. E. Lanier, 573 ft. N, 879 ft. W, SE cor. Lanier 76 ac. in K. E. Welborn Sur.....Coring sandy shale 2,150 ft.
The Texas Co.'s No. 1 Citizens State Bank, 2,793 ft. W, 300 ft. S, NE cor., Jas. Watkins Sur.....Rig up.

MARION COUNTY

W. D. Chew's No. 1 fee, 2,350 ft. W, 1,275 ft. N, SE cor., W. J. Hamilton Sur.....Cmtd. back to 1,610 ft to perforate csg. for test in Nacatoch; old T.D. 3,426 ft.
P. E. Hussey's No. 1 A. A. Trammell, Chas. Lockhart Sur.....Reaming to set 8-in; T.D. 1,884 ft.

RED RIVER COUNTY

D. M. Buffington's No. 1 Hossler, E. Hughhart Sur.....S.D. 2,865 ft.
Johnson Pet. Co.'s No. 2 Randolph, Edw. Dean Sur.....Swedging 2 jts. collapsed 8-in; arranging to cmt. 6⅝-in. and packer 2,182 ft.

SABINE COUNTY

Benedum & Trees Oil Co.'s No. 1 Nona Mills Lbr. Co., Jas. Mason Sur.....D.S. test 4,178-4,242 ft; 1,000,000 ft. gas; arranging to cmt. 9-in.

SHELBY COUNTY

Chapparell Oil Co.'s No. 2 Holt, Matthew Moore Sur.....T.A. hard lime 3,350 ft.
G. R. Ridgeway's No. 1 G. D. Parker, 4,980 ft. E, 750 ft. N, SW cor., Jessie McKelvey Sur.....Cmtd. 9-in. 1,831 ft.

MISSISSIPPI

ALCORN COUNTY

Alcorn Pet. Co.'s No. 1 Matthews, SE cor., Sec. 14-2s-7e.....Fishing 6-in. and tools 2,392 ft; T.D. 2,735 ft.

Why this man *stopped* bargain hunting for his lubrication

A certain gas engine operator thought that all lubricating oils were alike. The salesman with the lowest prices got his order. He could easily see *first cost* but overlooked *later penalties.*

The Vacuum Oil Company showed him files from the records of our technical department—actual instances where Correct Lubrication had helped bring savings and benefits. He finally decided to put his lubrication on the basis of *results* instead of price per gallon.

After he had used Gargoyle Lubricating Oils on eight 90-h.p. gas engines for about a year, here was the record of benefits he had secured:

Continuous run 108 days—One of his engines had been operating continuously 108 days without a shutdown. With former lubricants, 30 days was the maximum record for a continuous run.

53% saving in materials and labor for maintenance—With previous oils, the average repair cost for materials and labor was $144 a month. With Gargoyle lubricants in service, the average repair cost for labor and material dropped to $67.50 a month—a 53% saving.

Micrometer measurements show less wear—In addition, micrometer measurements show that the wear on the different parts of these engines is now approximately 35% less than with the lubricants previously used.

Cost of lubricants reduced 28%—With former lubricants the average monthly oil cost was $392.70. With Gargoyle lubricants the average cost was $282.70—although the "price per gallon" of Gargoyle lubricants was higher than the other lubricants.

Total money saving, $2,247.60—*In addition to* improved operating results, there was actually a total saving in repair and oil costs of $2,247.60.

(From Vacuum Oil Company File No. 6278)

This is only one example in thousands of reports covering practically every type of machine in world-wide industry. Perhaps you don't operate gas engines. If you will tell us the nature of your equipment, we will tell you what we have done in lubricating machinery similar to your own.

A Vacuum representative will call at any time to submit actual service records of Gargoyle lubricants.

• • •

On request we will send you, without obligation, one or all of these authoritative treatises on lubrication. You will find them useful in obtaining the maximum of lubrication efficiency in the operation of your machinery.

The following benefits result from Correct lubrication:

1. Reduced friction
2. Reduced power consumption
3. Continuity of production
4. Reduced maintenance costs
5. Prolonged useful life of machinery
6. Reduced ultimate cost of lubricants and labor of applying them
7. Reduced total production costs.

GARGOYLE

Lubricating Oils

The world's quality oils for machine lubrication

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HEADQUARTERS: 61 BROADWAY, NEW YORK

BRANCHES AND DISTRIBUTING WAREHOUSES THROUGHOUT THE WORLD

ATTALA COUNTY

K. A. March's No. 1 H. A. Moore, 500 ft. W, 330 ft. S, NE cor. SE NW, Sec. 3-15-5e.....Derrick.

CLAY COUNTY

Ohio Oil Co.'s No. 1 Cantrell, NE cor., Sec. 16-15-5.....Drlg. shale 1,710 ft.

CHICKASAW COUNTY

Hightower & Golson's No. 1 Flemming, NE cor., Sec. 20-13-3.....Drlg. paleozoic rock 1,700 ft.

GRENADA COUNTY

F. E. West et al's No. 1 Dubard, NW NW, Sec. 18-22-4..Derrick.

HINDS COUNTY

Attkison & Dyers' No. 1 Wiggins, Sec. 33-6-1e.....Derrick.
Big Block Oil Co.'s No. 1 Southern Christian Institute, C N½ NE, Sec. 30-6-4.....S.D. 1,910 ft.
Cane River O. & G. Co.'s No. 1 Kabbles, NE cor. SW SW, Sec. 15-5-1e.....Began drlg. Oct. 22; drlg. 300 ft.
Gulf Ref. Co.'s No. 1 McLaurin, 1,230 ft. S, 1,410 ft. W, NE cor., Sec. 30-6-2e.....Rig up.
Hawkeye Gas Co.'s No. 1 Webster, NW cor. NE NW, Sec. 15-5-1e.....Bailing to test; T.D. 2,476 ft.
Howard Oil Co.'s No. 1 Jackson College, C NW NW, Sec. 9-5-1e.....Derrick.
Jackson Oil Co.'s No. 1 Central Cotton Oil Co., NW cor., SW NW, Sec. 3-5-1e.....Rig up.
Jackson O. & G. Co.'s No. 1 Capital Land & Inv. Co., Sec. 29-6-1e.....Drlg. 2,179 ft.
Dr. Barney Kennedy's No. 1 fee, 150 ft. E, 200 ft. N, SW cor. NE NE, Sec. 34-6-1e.....Location.
Love Pet. Co.'s No. 1 Maley, SE cor. NW, Sec. 15-5-1e..Top Midway 2,387 ft; top chalk 2,487 ft. and cmtd. 6⅝-in; claim oil show estimated 10 bbls., 13° gravity clean oil, no gas 2,487-2,490 ft; flowed 25 bbls. oil and 300 bbls. wtr. 105 F; T.D. 2,494 ft; W.O.S.R.
Love Pet. Co.'s No. 1 Morton Lbr. Co., 1,500 ft. E, 1,525 ft. N, SW cor., Sec. 34-6-1e.....Rig up.
Miss Pet. Co.'s No. 1 Baptist Orphanage, 175 ft. E, 130 ft N, SW cor. SE SE, Sec. 28-6-1e.....Waiting for csg; T.D. 2,475 ft.
Miss. Pet. Co.'s No. 1 Solvent Inv. Co., NE cor. NE SW SW, Sec. 14-5-1w.....S.D. 2,710 ft.
Miss.-Tex. Oil Co.'s No. 1 Negro Fair Assn., SW cor. NW SE, Sec. 28-6-1e.....Cmtd. 6⅝-in. 2,479 ft.
Mrs. Reeder et al's No. 1 State, SE cor. NW NW, Sec. 25-6-1e.....W.O; T.D. 2,905 ft.
Tri-State O. & G. Co.'s No. 1 Wilson, SW cor. SE NE, Sec. 22-6-1e.....Derrick.
Universal Gas Co.'s No. 1 Sharbrough, SW cor. SE, Sec. 28-6-1e.....Began drlg. July 29; S.D; W.O. 88 ft.

HUMPHRIES COUNTY

E. S. Steele et al's No. 1 C. B. Box, SE cor. SE NE, Sec. 25-14-4w.....Set 12½-in. 60 ft; S.D.

JASPER COUNTY

Bay Springs Pet. Co.'s No. 1 Keys, C NW NE, Sec. 21-2-10.....Derrick.

LAUDERDALE COUNTY

Lauderdale O. & G. Co.'s No. 1 Lackey, 990 ft. S and E, NW cor. NE, Sec. 2-7-16.....Tested S.W. 3,252 ft; S.D. 3,420 ft.
J. R. Smith Oil Co.'s No. 1 C. F. Craig, Sec. 2-16-14.....Derrick.

LAFAYETTE COUNTY

Banks-Good et al's No. 1 May, 113½ rds. S, 26 rds. E, NW cor. SW, Sec. 22-10-1w.....Derrick.

LINCOLN COUNTY

Lincoln O. & G. Co.'s No. 1 Pat Case, NE cor. NE, Sec. 21-3-6.....S.D; W.O. 2,231 ft.

MADISON COUNTY

Barney Kennedy et al's No. 1 Raymond, 300 ft. E, 1,800 ft. N, SW cor., Sec. 32-7-2e.....Cmtd. 12½-in. 706 ft.

MONROE COUNTY

Amory Dev. Co.'s No. 1 Bourland, Sec. 2-13-19.....Resumed operations Oct. 2; recovered lost bailer; S.D; W.O. 3,007 ft.
Amory Pet. Co.'s No. 3 Carter, C SE SE, Sec. 7-13-17....Began drlg. Oct. 22; drlg. 635 ft.
Amory Pet. Co.'s No. 1 Hall, Sec. 8-13-19.....Shot 2,402-18 ft; small S.O; arranging to shoot 2,387-95 ft.
Associated Oil Co.'s No. 1 School, SW cor. SW SE, Sec. 16-15-17.....Began drlg. Aug. 26; S.D. 32 ft.
Park Bowser et al's No. 1 Cowart, second hole, Sec. 2-12-19.....S.D. 30 ft.

RANKIN COUNTY

R. A. Moore et al's No. 1 Interior Lbr. Co., Sec. 28-6-1e..S.D. 900 ft.
Cleve Love's No. 1 Muse, SE cor. SW SW, Sec. 32-7-4e...Derrick.
Love Pet. Co.'s No. 1 Moore (was Interior Oil Co.'s), 660 ft. N, 660 ft. W, SE cor. NW NW, Sec. 28-6-2e..S.D. 900 ft.
Sabine O. & G. Co.'s No. 1 Taylor, SE cor. SW NE, Sec. 6-5-2e.....Rig up.
Gulf Ref. Co.'s No. 1 Hamilton, 1,320 ft. N, 1,320 ft. E, SW cor., Sec. 12-5-1e.....Began drlg. Oct. 3; cmtd. 12½-in. 810 ft; drlg. 1,150 ft.
Jackson Royalties, Inc.'s No. 1 Pate, NE cor. NE SE, Sec. 12-5-1e.....Began drlg. Oct. 5; cmtd. 12½-in. 280 ft; drlg. shale 2,120 ft.
Cleve Love et al's No. 1 Brown, C NW SE, Sec. 12-5-1e..Began drlg. Oct. 9; drlg. 1,200 ft.
Pearl River O. & G. Co.'s No. 2 Pate, SE cor. SW SE, Sec. 12-5-1e.....Began drlg. Oct. 7; cmtd. 10-in. 292 ft.

WARREN COUNTY

Raymond A. Moore et al's No. 1 Clark, SE, Sec. 31-16-5 (no check).....Derrick.
Vicksburg Oil Co.'s No. 1 Dornbush, 2,080 ft. S, 1,520 ft. W, NE cor., Sec. 8-18-5.....Waiting on drill stem; T.D. 1,350 ft.

WINSTON COUNTY

Miss. Drlg. Co.'s No. 1 Scarbrough, NW cor., Sec. 15-13-14.D.S. test 848-68 ft; small S.G; drlg.

YALOBUSHA COUNTY

Carter Oil Co. and J. W. Collett's No. 1 Blackmur, 330 ft. S, 990 ft. W, Sec. 14-11-4.....Fishing junk 3,260 ft; T.D. 3,436 ft.

YAZOO COUNTY

Amerada Pet. Corp.'s No. 1 Doherty, SW SW, Sec. 24-12-2.Drlg. sandy lime 5,133 ft.

ALABAMA

LAMAR COUNTY

Griggs & Knapp's No. 1 Wefel, Sec. 25-12-14.....T.A. 1,740 ft.

LAUDERDALE COUNTY

A. D. Morton et al's No. 10 O'Neal est., Sec. 8-2s-13w....Cmtd. 12½-in. 125 ft; drlg. hard lime 905 ft.

MARION COUNTY

Hobson et al's No. 1 John Clark, SE, Sec. 29-11-14.....Derrick pattern.

WASHINGTON COUNTY

S. A. Hobson's No. 1 Hobson Bros., Sec. 9-8-2.....S.D; W.O; flow at 1,450 ft.
S. A. Hobson's No. 1 Wilson, Sec. 27-7-1.....Fishing bailer; T.D. 881 ft.
Oscar Brown's No. 2 Land & Cotton Co., Sec. 25-3-2w....Drlg. 700 ft.

LOUISIANA-ARKANSAS PROVEN AREAS

(Continued from Page 46)

(Rotary operations unless otherwise designated.)

CADDO PARISH—OIL CITY

The Texas Co.'s No. 73 Levee Board, 1,642 ft. E, 780 ft. N, SW cor. SW SE, Sec. 27-21-16.....Location.
The Texas Co.'s No. 74 Levee Board, 1,600 ft. S, 200 ft. W, NE cor., Sec. 33-21-16.....Derrick.
The Texas Co.'s No. 75 Levee Board, 2,450 ft. S, 224 ft. W, NE cor., Sec. 33-21-16.....Derrick.

CADDO PARISH—PINE ISLAND

Shreveport Oil Corp.'s No. 1-A Muslow, 150 ft. S, 150 ft. E, NW cor., Sec. 32-21-15.....Arranging test 2,190 ft.
Tholl Oil Co.'s No. 13 Bashara, 75 ft. N, 300 ft. W, SE cor., Sec. 23-21-15.....Began drlg. Oct. 23; cmtd. 10-in. 42 ft; drlg. 450 ft.

CLAIBORNE PARISH—SUGAR CREEK

Triangle Drlg. Co.'s No. 1 Brownfield, 660 ft. S, 660 ft. E, NW cor. NE, Sec. 6-19-5.....Drlg. 3,812 ft.
Triangle Drlg. Co.'s No. 1 J. W. Stevenson, 670 ft. N, 665 ft. W, SE cor. SW SE, Sec. 6-19-5.....Drlg. 3,800 ft.
Standard Oil Co.'s No. 4-A Farmer, 330 ft. S, 330 ft. E, NW cor. NE NW, Sec. 5-13-13.....Drlg. 2,219 ft.

DE SOTO PARISH—HOLLY

Standard Oil Co.'s No. 4-A Farmer, 330 ft. S, 330 ft. E, NW cor. NE NW, Sec. 5-13-13.....Cmtd. 6-in. 2,688 ft; T.D. 2,898 ft.
Standard Oil Co.'s No. 1-B Dowling Bros., 200 ft. N, 396 ft. W, SE cor. SW SW, Sec. 32-14-13.....Derrick.

LA SALLE PARISH—URANIA

Montugu Oil Co.'s No. 9 Zenoria Lbr. Co., 660 ft. W, 200 ft. S, NE cor., Sec. 10-9-1e.....Began drlg. Oct. 15; cmtd. 10-in. 103 ft; 6-in. 1,491 ft; W.O.S.R. 1,508 ft.

MOREHOUSE PARISH

Bahan & Bahan's No. 4 Feazel, 900 ft. W, 330 ft. S, NE cor., Sec. 2-20-4.....Location.
Grecian Bend Gas Co.'s No. 1 J. D. Sandidge et al, 600 ft. W, 1,980 ft. N, SE cor. NE, Sec. 2-20-4.....Location.
La. G. & F. Co.'s No. 3 Sandidge (was Industrial Gas Co.'s), 560 ft. N, 660 ft. E, SW cor. SE, Sec. 15-20-4..Began drlg. Oct. 23; cmtd. 12½-in. 154 ft; 9-in. 810 ft.
Texas-La. Prod. Co.'s (was Moody-Seagraves Gas Co.'s) No. 1 Fisher, 660 ft. E, 3,814 ft. N, SW cor., Sec. 34-21-5.....Drlg. gas rock 2,270 ft.
Ouachita Nat. Gas Co.'s No. 2 Cole, 660 ft. S, 613 ft. W, NE cor., Sec. 13-20-4.....Cmtd. 6-in. 2,149 ft.

OUACHITA PARISH

La. G. & F. Co.'s No. 4 fee (was Industrial Gas Co.'s), 1,334 ft. N, 652 ft. W, SE cor., Sec. 2-19-3.....Location.
Jordan Drlg. Co.'s No. 7 Cole, 265 ft. S, 1,469 ft. W, NE cor., Sec. 49, in Sec. 50-18-4.....Location.
Jordan Drlg. Co.'s No. 1 School, 216 ft. S, 244 ft. W, NE cor. NW, Sec. 16-18-4.....Rig up.
Pipes & Mack's No. 1 Robertson & Reed, 990 ft. W, 330 ft. S, NE cor. SE, Sec. 10-18-4.....Location.
Pipe & Mack's No. 2 Union Gas Products Co., 296 ft. W, 528 ft. N, SE cor. SW, Sec. 7-18-5.....Location.
United Carbon Co.'s No. 6 Spade, 1,180 ft. S, 140 ft. E, NW cor., Sec. 27-19-4.....Location.

RICHLAND PARISH

W. C. Feazel's No. 1 R. B. Simon, 2,406 ft. W, 2,020 ft. S, NE cor., Sec. 11-16-6.....Rig moved; derrick.
Franklin O. & G. Co.'s No. 1 Thompson, 660 ft. N, 165 ft. W, SE cor. NE, Sec. 14-16-6.....Location.
Hope Prod. Co.'s No. 1 Thomason, 1,980 ft. N, 660 ft. E, SW cor., Sec. 14-16-6.....Rig up.
La. G. & F. Co.'s No. 1-A Noble, 1,320 ft. N, 580 ft. W, SE cor. NE, Sec. 35-16-5.....Began drlg. Oct. 26; cmtd. 12½-in. 179 ft.
Palmer Corp.'s No. 1-B Boykin, 177 ft. S, 787 ft. E, C, Sec. 33-17-6.....Cmtd. 6-in. 2,295 ft.
Palmer Corp.'s No. 1 Holdiness, 552 ft. S, 2,215 ft. W, NE cor., Sec. 8-16-6.....Location.
Palmer Corp.'s No. 12 Rhymes-England, 1,320 ft. W, 660 ft. N, SE cor. NW, Sec. 33-17-6.....Cmtd. 6-in. 2,300 ft.
Palmer Corp.'s No. 13 Rhymes-England, 561 ft. W, 66 ft. N, SE cor., Sec. 29-17-6.....Began drlg. Oct. 23; cmtd. 12½-in. 171 ft; drlg. 465 ft.
Southern Carbon Co.'s No. 1 J. A. Clements, 1,320 ft. S, 1,980 ft. W, NE cor., Sec. 10-16-6.....Began drlg. Oct. 22; cmtd. 12-in. 179 ft.
Southern Carbon Co.'s No. 1-B Hale, 1,320 ft. N, 660 ft. E, SW cor., Sec. 15-16-6.....Location.
Southern Carbon Co.'s No. 1 G. Harris, 10 ft. S, 660 ft. W, NE cor., Sec. 10-16-6.....Drlg. 2,437 ft.
Southern Carbon Co.'s No. 1-C Hemler, 1,164 ft. S, 888 ft. W, NE cor., Sec. 14-16-6.....Location.
Southern Carbon Co.'s No. 2-C M. L. McCoy, 1,880 ft. N, 5,024 ft. E, SW cor., Sec. 1-16-6.....Tested dry 2,491 ft; W.O.
Southern Carbon Co.'s No. 1-D M. and M. McCoy, 1,980 ft. S, 660 ft. W, NE cor., Sec. 30-16-6.....Location.
Southern Carbon Co.'s No. 7 F. B. and E. A. Sartor, 2,540 ft. S, 660 ft. E, NW cor., Sec. 17-16-7.....Location.
Southern Carbon Co.'s No. 1-C Thomason, 1,980 ft. N, 1,400 ft. W, SE cor., Sec. 14-16-6.....Cmtd. 8-in. 862 ft; drlg. 2,320 ft.
Southern Carbon Co.'s No. 1-E Thomason, 3,300 ft. S, 100 ft. E, NW cor., Sec. 32-16-6.....Location.
State Line O. & G. Co.'s No. 1-A Boughton, 1,883 ft. E, 127 ft. S, NW cor. SW, Sec. 33-16-6.....Began drlg. Oct. 25; cmtd. 12½-in. 157 ft.
State Line O. & G. Co.'s No. 1 Hewitt, 1,721 ft. S, 957 ft. E, NW cor. SW, Sec. 32-16-6.....Location.
United Carbon Co.'s No. 1 J. A. Hemler, 660 ft. W, 66 ft. N, SE cor., Sec. 5-16-6.....Rig up.
United Carbon Co.'s No. 2 C. M. Noble, 805 ft. W, 1,498 ft. N, common cor. Secs. 7, 8 and 37-15-16 in Sec. 37..Began drlg. Oct. 26; drlg. 100 ft.

SABINE PARISH—PLEASANT HILL

F. A. Bartlett, Jr.'s No. 1 Logan, 200 ft. S, 200 ft. E, NW cor., Sec. 27-10-12.....S.D. 2,400 ft.
A. C. Glassell's No. 1 Logan Oil Co., 300 ft. E, C, Sec. 23-10-13.....Base chalk 1,941 ft; coring 1,958 ft.

SABINE PARISH—ZWOLLE

W. M. Coates' No. 1 Sabine Lbr. Co., 424 ft. N, 424 ft. E, SW cor. NW SW, Sec. 1-7-12.....Rig up.
Tom Davis' No. 1 Holliday (was T. D. Allison's), Sec. 31-8-12, Zwolle townsite.....S.D. wtr. 1,350 ft.
F. M. Hood's No. 1-B Winston (was No. 2), 700 ft. E, 425 ft. S, NW cor., Sec. 31-8-12, Zwolle townsite.....S.D. 1,065 ft.
Dixie Oil Co.'s No. 1 Parrott, 330 ft. N, 330 ft. E, SW cor. SE NE, Sec. 26-8-12.....D.S. test 2,450 ft; dry; S.D; W.O. 2,650 ft.
R. L. Gay's No. 1 Peterson (was Posey et al's), Blk. 16, Zwolle townsite, Sec. 31-8-12.....Dry 2,260 ft; drlg. 2,270 ft.
Ab Jones et al's No. 1 Ferguson, 330 ft. N, 330 ft. W, SE cor. NE SW, Sec. 33-8-12.....Rig up.
Lacey Burkett Co.'s No. 1 Danna, 316 ft. E, 200 ft. S, C, Sec. 26-8-12.....W.O.S.R. full oil; T.D. 2,404 ft.
Loring Oil Co.'s No. 1 Middleton, 200 ft. E, 200 ft. S, NW cor. NE SE, Sec. 26-8-12.....Drlg. 2,502 ft.
Loring Oil Co.'s No. 2 Middleton, 330 ft. W, 175 ft. S, NE cor. NE SE, Sec. 26-8-12.....Began drlg. Oct. 22; cmtd. 10-in. 102 ft; drlg. 1,550 ft.
Loring Oil Co.'s No. 2 Sabine Lbr. Co., 1,430 ft. E, 340 ft. N, C, Sec. 34-8-12.....100 ft. oil in hole; W.O.S.R; T.D. 2,600 ft.
Lyon et al's No. 1 Neely (was No. 1 Williams), 330 ft. N, 330 ft. W, SE cor. SW SE, Sec. 32-8-11.....Dry 2,300 ft. and 2,440 ft; whipstocked csg. 2,024 ft; S.D. 2,261 ft.
Pelican Nat. Gas Co.'s No. 5 Sabine Lbr. Co., 330 ft. S, 330 ft. E, NW cor. NW NE, Sec. 11-7-12.....Cmtd. 6-in. 2,322 ft; top marl.
H. W. Perritt, trustee's No. 1 Bowman-Hicks, 330 ft. N, 330 ft. W, SE cor. SW, Sec. 2-7-12.....Began drlg. Oct. 22; cmtd. 10-in. 76 ft; drlg. 150 ft.
Pugh-Hickman Drlg. Co.'s No. 1 Sabine Lbr. Co., 350 ft. N, 350 ft. E, SW cor. NW NE, Sec. 34-9-12.....Dry 2,650 ft; arranging to deepen

LIGHT WEIGHT Naylor Pipe

Withstands High Pressures

20-inch Naylor Pipe in Testing Machine during Internal Hydrostatic Pressure Tests

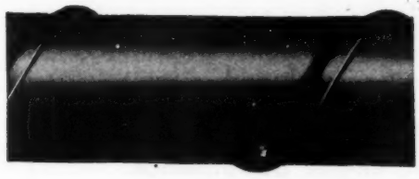
No.2—Internal Hydrostatic Pressure Tests.

Every length of Naylor Pipe is tested to the pressures indicated in the following table:

Diameter of Pipe	Mill Test Lbs. per Sq. In.	Diameter of Pipe	Mill Test Lbs. per Sq. In.
6″	900	14″ O. D.	450
8″	800	16″ O. D.	400
10″	700	18″ O. D.	350
12″	500	20″ O. D.	325

Extensive tests recently made by Professor M. L. Enger and W. M. Lansford of the Materials Testing Laboratory of the University of Illinois, bear out the soundness of this practice.

In the course of these tests it was shown that the bursting strength of Naylor Pipe computed in accordance with the formula $p = \frac{2ts}{d}$ was less than the bursting strength found by experiment: This means that the Naylor Structure is definitely responsible for an increase in resistance to internal hydrostatic pressure.



Catalog 30-2 gives you complete engineering and metallurgical data.

NAYLOR PIPE COMPANY, Main Office & Plant, 1230 E. 92nd St., CHICAGO

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TONCAN COPPER **Naylor Pipe**

Maximum Structural Strength — Mo-lyb-den-um IRON — With Minimum Weight

Standardized Naylor Pipe is made in sizes 6″ to 12″ I. D. and 14″ to 20″ O. D. in any uniform length desired up to 40'0″. Ends made to wrought pipe standards for all types of coupling.

Toncan Copper Molybdenum Iron possesses a superior corrosion resistance, making it the favored pipe material.

Where corrosion is not a problem, Naylor Pipe can be furnished in steel.

Lower Maintenance Costs

* Eliminates Cracking of Heads

* Saves Fuel, Oil, Piston Rings and Cylinder Walls

The Improved Gas Engine Head is built to eliminate shut-downs, lower maintenance cost and to improve engine performance. The combustion chamber is built of electric cast steel with integral skeleton frame—Annealed to prevent warping and cracking. A 3-16" plate is welded around the frame to form the water jacket. This construction greatly reduces weight without sacrificing strength. The removable head plate gives increased water space and is sufficiently flexible to counteract vibration. The Improved Heads are made to fit either right hand or left hand cylinders.

IMPROVED STEEL GAS ENGINE HEAD CO.
3428 South Santa Fe Ave.
West Tulsa, Oklahoma

Standard Oil Co.'s No. 1 Bowman-Hicks, 330 ft. N, 330 ft. E, SW cor. SW NW, Sec. 25-8-13.....Began drlg. Oct. 22; cmtd. 10-in. 112 ft.
Tarver et al's No. 4 Sabine State Bank, 220 ft. W, 270 ft. N, C, Sec. 26-8-13.....Cmtd. 6⅝-in. 2,824 ft; tested dry 2,482 ft; W.O.
C. H. Teat et al's No. 1 Craig, 300 ft. N, 300 ft. E, SW cor. NE NE, Sec. 25-8-13.....Began drlg. Sept. 27; cmtd. 10-in. 97 ft; top marl and cmtd. 6-in. 2,310 ft.
Wheatcroft et al's No. 1 Sabine Lbr. Co., SW NE, Sec. 31-8-12 .....S.D. 2,495 ft.

SABINE PARISH—BLUE LAKE

R. L. Gay's No. 8 Bowman-Hicks, Sec. 18-7-13.....Recmtd. back to 2,392 ft; old T.D. 2,552 ft.
R. L. Gay's No. 9 Bowman-Hicks, 330 ft. N, 330 ft. W, SE cor. NE SW, Sec. 18-7-13.....Began drlg. Oct. 25; cmtd. 10-in. 63 ft; drlg. 200 ft.

UNION COUNTY

Bahan & Bahan's No. 2 Tanner, 3,300 ft. N, 1,980 ft. W, SE cor., Sec. 19-22-4.....Drlg. 1,870 ft.
Greenwood Prod. Co.'s No. 5 Norsworthy, 1,320 ft. S, 1,999 ft. E, NW cor., Sec. 9-21-3.....Cmtd. 6-in. 2,043 ft.
E. S. Hall's No. 5 Spencer, 1,980 ft. E, 600 ft. N, SW cor., Sec. 14-20-3 .....Location.
La. G. & F. Co.'s No. 12 Smith (was Ouachita Nat. Gas Co.'s), 2,152 ft. N, 708 ft. E, SW cor., Sec. 20-20-4...Location.

WEBSTER PARISH—SAREPTA AND SHONGALOO

Magnolia Pet. Co.'s No. 3 Denman, 369 ft. S, 513 ft. W, NE cor. NE NW, Sec. 1-22-11.....Began drlg. Oct. 22; cmtd. 10¾-in. 324 ft; drlg. 2,490 ft.

ARKANSAS

JOHNSON COUNTY

Ark.-La. P. L. Co.'s No. 1 Hudson et al, 660 ft. N, 545 ft. E, SW cor. SE NE, Sec. 14-10-24.....Tested 1,500,000 ft. gas 820-25 ft; drlg. hard sand 1,120 ft.
Ark.-La. P. L. Co.'s No. 1 Mattie Kelly, 330 ft. S, 657 ft. E, NW cor. SW SW, Sec. 14-10-24.....Cmtd. 8-in. 1,675 ft; (C.D.).
Conn Grabble's No. 1 Hoeing, 720 ft. N, 590 ft. W, SE cor., Sec. 20-9-5.....S.D. 2,238 ft.

OUACHITA COUNTY—SMACKOVER

L. H. Hamilton's No. 3 Doyle, 100 ft. E, 400 ft. N, SW cor. SE SE, Sec. 23-15-16.....Began drlg. Sept. 24; cmtd. 10-in. 40 ft; S.D.
W. J. Thomas' No. 1 Usserey & Arnold, 200 ft. N, 200 ft. W, SE cor. NW, Sec. 36-15-15.....Cored S.W. sand 2,033-37 ft; S.D; W.O.

SEBASTIAN COUNTY

Mansfield Gas Co.'s No. 14 fee, Lot 10, Sec. 1-4-31.....Drlg. hard sand 1,550 ft.
Ozark Nat. Gas Co.'s No. 10 Weaver, 660 ft. N, 660 ft. W, SE cor. SE NE, Sec. 27-8-30.....Straightening hole; T.D. 2,640 ft.
Ozark Nat. Gas Co.'s No. 1 Bates, C SE NW, Sec. 28-8-30. Test est. 5,000,000 ft. gas; drlg. 2,990 ft.

UNION COUNTY—CHAMPAGNOLLE

Lion Oil Ref. Co.'s No. 1 Sullivan, 330 ft. N, 330 ft. W, SE cor. SE NW, Sec. 12-17-14.....Rig up.
Ohio Oil Co.'s No. 10 Crain, 330 ft. S, 330 ft. W, NE cor. SE SW, Sec. 1-17-14.....Derrick.

UNION COUNTY—EL DORADO

Malloy & Co.'s No. 7 Burns, SW cor. NW NW, Sec. 31-17-15 .....Drlg. sand 2,182 ft.
Rice Drlg. Co.'s No. 1 Watley, 150 ft. S, 150 ft. E, NW cor. SW, Sec. 7-17-15.....Reported abd. 92 ft. Apr. 30, 1930; arranging to resume drlg.
Weisinger & Boll's No. 8 Goodwin, 175 N, 150 ft. E, SW cor. NE NW, Sec. 6-18-15.....Cmtd. 6⅝-in. 2,112 ft.

UNION COUNTY—SMACKOVER

J. E. Crosbie, Inc.'s No. 1 G. L. Murphy, 300 ft. N, 300 ft. W, SE cor. SW NW, Sec. 13-16-16.....700 ft. of 23.5 gravity oil at 93 ft; W.O.S.R; 2,740 ft.

EAST TEXAS

HARRISON COUNTY

Calatex O. & G. Co.'s No. 6 Argus, 755 ft. N, 699 ft. W, Mile Post 27, in J. Womack Sur. .....Location.
Shell Rock Pet. Co.'s No. 1 Oliver Dougherty, W. D. Burris Sur. .....S.D. brown chalk 3,520 ft.

PANOLA COUNTY

Ark.-La. P. L. Co.'s No. 2-A G. W. Brumble, 477 ft. W, 473 ft. S, NW cor. Jno. Womack Sur., in B. C. Jordan Sur. .....Drlg. lime 3,825 ft.
W. G. Banks et al's No. 1 C. O. Baldwin, 1,395 ft. W, 1,342 ft. S, NE cor. Baldwin 290 ac. in Hampton West Sur. .....Derrick.
S. E. Bell et al's No. 1 Burnett Lbr. Co., C. S. B. Hendricks Sur. .....Milling on junk 2,080 ft.
Creighton and Hart's No. 1 Greeny-Kyle, C. Greeny-Kyle 60 ac., Jas. Tippett Sur. .....Milling on junk 2,940 ft.
Texas-La. Prod. Co.'s No. 1 Baker, 1,000 ft. N, 550 ft. W, SE cor., 63-ac. Baker tract, in B. C. Jordan Sur. Rig up.
The Texas Co.'s No. 2 Brumble, E. F. Mitcheson Sur.....Drlg. 2,200 ft.
Knox et al's No. 1 Dunham (was Jackson et al's), 150 ft. W, 150 ft. N, SE cor. M. I. Dunham 29 ac., in Chas. Haley Sur. .....S.D; W.O. 2,605 ft. lime.
Nat. Gas Products Co.'s No. 8 Roguemore.....O.W.D.D; coring sandy lime 4,655 ft.
Doris Thomason's No. 15 Crenshaw, 1,992 ft. S, 2,305 ft. E, SW cor., Jno. Womack Sur. in B. C. Jordan Sur...Derrick.

MISSISSIPPI

RANKIN COUNTY

Gulf Ref. Co.'s No. 1 Hamilton, 1,320 ft. N, 1,320 ft. E, SW cor., Sec. 12-5-1e.....Cmtd. 9-in. 2,550 ft; T.D. 2,566 ft.
Jackson Royalties, Inc.'s No. 1 Pate, NE cor. NE SE, Sec. 12-5-1e .....Cmtd. 6⅝-in. 2,379 ft.
Cleve Love et al's No. 1 Brown, C NW SE, Sec. 12-5-1e..Cmtd. 6⅝-in. 2,358 ft.
Dr. S. D. Raymond's No. 1 Graves, 1,810 ft. N, 3,210 ft. W, SE cor., Sec. 12-5-1e.....Began drlg. Oct. 24; cmtd. 15⅝-in. 35 ft; drlg. sand 650 ft.
Pearl River O. & G. Co.'s No. 2 Pate, SE cor. SW SE, Sec. 12-5-1e .....Cmtd. 7-in. 2,379 ft.
Wallace Oil Co.'s No. 1 Cobb, SW cor. SE NE, Sec. 12-5-1e .....Location.

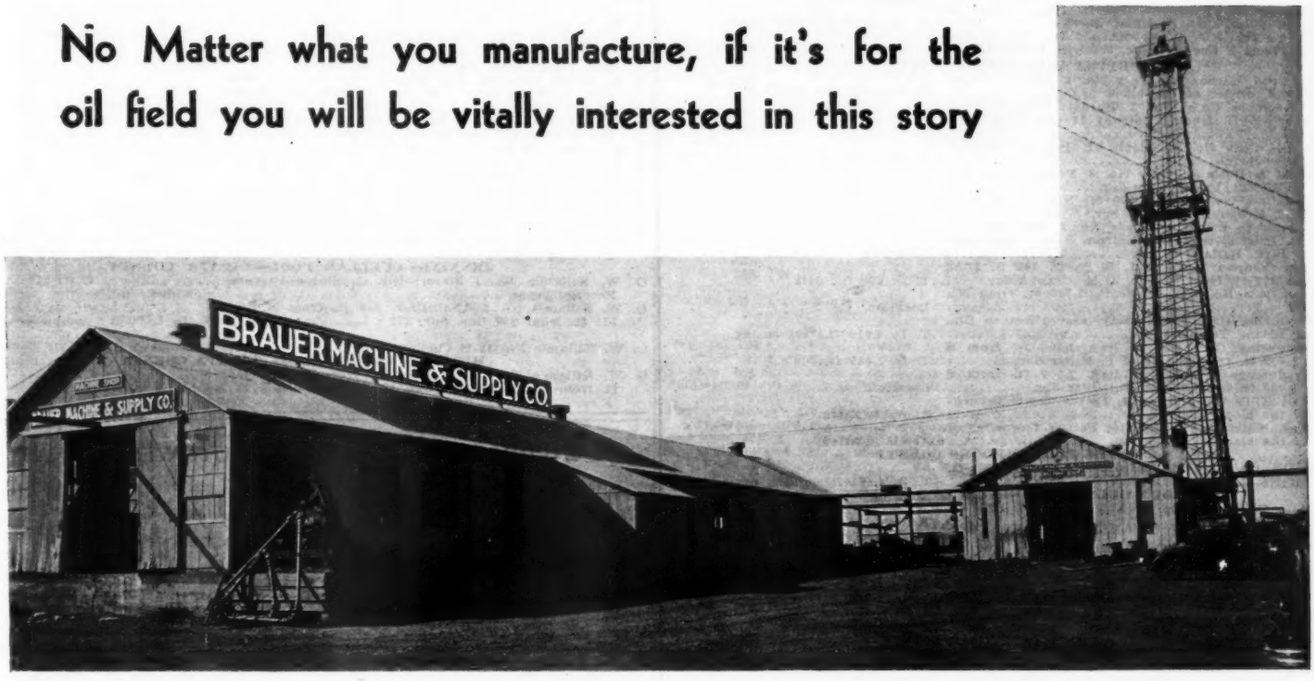
SOUTHWEST TEXAS PROVEN AREAS

(Continued from Page 48)

Magnolia Petroleum Co.'s No. 4 Annie Knodel, 450 ft. from NW line, 450 ft. from SW line, Robinson Sur...T. D. 2,090 ft.; drlg.
Magnolia Petroleum Co.'s No. 6 Rand Miller, 150 ft. from NW line, 450 ft. from SW line, Alexander Sur...Spudded.
Magnolia Petroleum Co.'s No. 5 Rand Miller, 390 ft. from NW line, 780 ft. from SW line of lease, Alexander Sur. .....T. D. 2,622 ft.; drlg. plugs.
The Texas Company's No. 2 Schmidt-Wiley, 450 ft. from E line, 150 ft. from S line of lease .....T. D. 2,548 ft.; completed for 140 bbls.
The Texas Company's No. 6-A Knoblock, 750 ft. from SW line, 600 ft. from SE line of lease, Robinson Sur. .....Location.
The Texas Company's No. 7-A Knoblock, 1,225 ft. from SW line, 600 ft. from SE line of lease, Robinson Sur. .....Location.
The Texas Co.'s No. 8-A Knoblock, 1,592 ft. from SW line, 600 ft. from SE line of lease, Robinson Sur...Location.
The Texas Company's No. 9-A Knoblock, 450 ft. from NE line, 600 ft. from SE line of lease, Robinson Sur. .....Location.

SHALE SEPARATORS or TOOL HOUSES

No Matter what you manufacture, if it's for the oil field you will be vitally interested in this story



Brauer Machine and Supply Company needs no introduction to you. Its Oklahoma City plant is shown above, in the very shadow of a gusher in the Oklahoma City field. But the Oklahoma City field and its possibilities did not bring Brauer to Oklahoma City.

Instead, Brauer moved to Oklahoma City because it is the proved center of the Mid-Continent and because transportation facilities are such that Brauer can best serve all parts of the entire oil producing country from this point, both as to domestic trade and various ports for export.

BRAUER MACHINE AND SUPPLY and OTHER MANUFACTURING COMPANIES ARE NOT ALONE IN THEIR CONCLUSIONS ◆ ◆ ◆

Scores of other manufacturers and oil field supply houses are serving the Mid-Continent from Oklahoma City. The geographical location, the transportation facilities and the ample supply of dependable, economical electric power at attractive industrial rates are but a few of the reasons. A complete analysis of this market as it pertains to your own business will be mailed you on request. Write for it on your letterhead.

OKLAHOMA CITY CHAMBER of COMMERCE

OKLAHOMA CITY, OKLAHOMA

The Texas Company's No. 4 Pauline Roamel, 850 ft. from SE line, 450 ft. from SW line of lease, Hodges Sur. ....Location.
The Texas Company's No. 1 Appling, 180 ft. from S line, 450 ft. E of NE cor. of Alexander Sur. in the Hodges Sur. ....Location.
The Texas Company's No. 7 Posey, 300 ft. SW of NE line, 450 ft. from NW line of Posey lease, Robinson Sur. ....T. D. 2,605 ft.; complete for 1,300 bbls.
F. L. Thomson's No. 2 Posey, 25 ft. from NW line, 300 ft. from No. 1 ....Location.

CHAPMAN POOL—WILLIAMSON COUNTY

W. D. Anderson's No. 6-A T. P. Simmons ....T. D. 1,745 ft.; completing.
W. D. Anderson's No. 7 M. V. Lawrence ....T. D. 2,242 ft.; shut down.
W. D. Anderson's No. 8 M. V. Lawrence ....Location.
Bartlett & Wilson's No. 1 R. E. Stewart ....T. D. 741 ft.; drlg.
E. L. Chapman et al's No. 2-A Sides ....Rigging up.
J. L. Collins & Co.'s No. 5 M. V. Lawrence, 150 ft. from W line, 515 ft. from S line of 27-ac. tract, S. Miller Sur. ....T. D. 1,462 ft.; drlg.
E. E. Ertel's No. 1 H. Swanson ....T. D. 1,025 ft.; shut down.
Elliott and Moore's No. 1 A. J. Carlson ....T. D. 40 ft.; shut down.
F. Fuchs' No. 1 C. D. Johnson ....T. D. 1,390 ft.; drlg.
McNeal et al's No. 7 Kilgore ....Skidding derrick.
E. C. Mead's No. 1 Abbott, 100 ft. from N and W lines of 6-ac. tract, S. Miller Sur. ....T. D. 2,166 ft.; shut down.
G. Stratton's No. 5 J. C. Abbott, 450 ft. from E line, 150 ft. from S line of 32-ac. tract, S. Miller Sur. ....Spudded.

PETTUS AREA—BEE COUNTY

Buchanan and Karone Oil Co.'s No. 1, Blk. 8, Pettus Townsite, center of the block ....T. D. 3,945 ft.; abnd.; dry.
Batex Petroleum Co.'s No. 3 Burnett, 360 ft. from N line, 600 ft. from E line of 320-ac. tract, Kerr Sur. ....Location.
Houston Oil Co.'s No. 1, Block 21, Pettus Townsite, center of block ....T. D. 4,171 ft.; abnd.; dry.
Humble Oil & Refining Co.'s No. 8 McKinney, S off-set to Blk. 21, Pettus Kerr Sur. ....T. D. 4,183 ft.; drlg.
J. L. Mauldin's No. 1 fee, 1,300 ft. N of S line, 150 ft. E of Medio Creek, Kerr Sur. ....T. D. 3,555 ft.; drlg.
Moody-Seagraves Producing Co.'s No. 2 McKinney, 3,840 ft. from E line, 450 ft. from S line, McKinney tract, R. C. Ballard Sur. ....Location.
The Texas Company's No. 2 J. R. Scott, 200 ft. from N line, 150 ft. from W line, J. M. Urango Sur. ....T. D. 690 ft.; drlg.
The Texas Co.'s No. 3 J. R. Scott, 7,100 ft. from No. 1, SW ....Location.
Union Producing Co.'s No. 23 Ray, east offset to Blk. 39 of Pettus Townsite ....T. D. 3,919 ft.; set casing.
Union Producing Co.'s No. 25 Ray, 1,700 ft. from S line, 1,400 ft. from E line of P. Miller Sur. ....T. D. 1,185 ft.; drlg.
Union Producing Co.'s No. 26 Ray, 2,500 ft. from S line, 2,000 ft. from E line, P. Miller Sur. ....Location.
Wilson and Hill's No. 1, Blk. 14, Pettus Townsite, center of the block ....Abnd. location.
Wilson and Hill's No. 1, Blk. 16, Pettus Townsite, center of the block ....Abnd. location.

LASSATER POOL—BROOKS COUNTY

Houston Oil Co.'s No. 3 Holbein-Wormser, 2,100 ft. NE of No. 1 ....T. D. 4,861 ft.; abnd.; dry.

AGUA DULCE FIELD—NUECES COUNTY

South Texas Production Co.'s No. 2 Ollie Purl, 1,200 ft. NE of No. 1 ....T. D. 1,986 ft.; setting csg.; gas sand.
South Texas Production Co.'s No. 3 Walter, 800 ft. from S line, 460 ft. from E line of Walters tract in Section 34 ....T. D. 1,984 ft.; setting csg. to test.

SAXET FIELD—NUECES COUNTY

Saxet Oil & Gas Co.'s No. 2 Donnegan, 2,150 ft. due S of No. 1 Donnegan ....T. D. 4,905 ft.; drlg.
Saxet Oil & Gas Co.'s No. 7 Dunn, 2,400 ft. NW and 200 ft. NE of S cor. of Dunn farm ....Derrick.
Moody-Seagraves Producing Co.'s No. 1 Smith, 450 ft. from N and E line of 120-acres tract, J. Dunn Sur. ....Rigging up.

WHITE POINT FIELD—SAN PATRICIO COUNTY

Saxet Oil & Gas Co.'s No. 17 Rachel, 150 ft. from N line, 1,600 ft. from E line of 200-ac. tract ....T. D. 4,567 ft.; coring.

LION McFADDEN POOL—VICTORIA COUNTY

Houston Oil Co.'s No. 1 McFadden, 330 ft. S and 900 ft. E of SE cor. of survey, L. Mann Sur. ....T. D. 4,207 ft.; drlg.
Lion Oil Refining Co.'s No. 2 McFadden, 1,917 ft. W of NE cor. and 512 ft. at right angles from N line of Edwards Sur., 660 ft. E of No. 1 in the M. J. Travesia Sur. ....T. D. 6,425 ft.; drlg.

LAREDO DISTRICT

SCHOOLFIELD-O'BYRNE POOL—DUVAL COUNTY

Magnolia Petroleum Co.'s No. 1 Edge-Hahl, 150 ft. from N line, 150 ft. from W line, Sur. 63 ....T. D. 3,624 ft.; drlg.
F. M. Frasher and R. F. Schoolfield's No. 1 Duval Land Co., 990 ft. from N line, 1,320 ft. from W line, Sur. 123 ....Location.

RANDADO POOL—JIM HOGG COUNTY

J. W. Pippin's No. 1 N. Hinnant, 150 ft. each way from SW cor., Blk. 11, Sur. 147 ....Derrick.

KOHLER POOL—DUVAL COUNTY

Co-operative Drilling Co.'s No. 4 John Dinn, 450 ft. from N line, 450 ft. from W line, Blk. 4, Sur. 454 ....Rigging up.
Humble Oil & Refining Co.'s No. 50 Kohler, 2,805 ft. from S line, 165 ft. from W line of Sur. 164....Derrick.

S. R. C. POOL—DUVAL COUNTY

S. R. C. Oil Co.-Vacuum Oil Co.'s No. 2 Duval County Ranch Co., 1,050 ft. from E line, 2,050 ft. from N line, Sur. 293 ....T. D. 1,900 ft.; drlg.

COLE POOL—DUVAL COUNTY

Magnolia Petroleum Co.'s (O'Hern & Seacord) No. 3-A Benavides, 330 ft. from SW line, 330 ft. from SE line, Blk. 12, Sur. 174 ....T. D. 2,765 ft.; drlg.

ROMA POOL—STARR COUNTY

The Texas Company's No. 5-A V. C. de Guerra, 675 ft. from N line, 675 ft. from E line, Share 305, Por. 67, Jurisdiction of Mier ....T. D. 3,540 ft.; drlg.

MID-OJUELOS—WEBB COUNTY

O. W. Killam's No. 1 Garcia, 1,050 ft. from W line, 150 ft. from N line, Blk. 45, Ojuelos grant ....T. D. 1,848 ft.; waiting on cement.

REISER POOL—WEBB COUNTY

O. W. Killam's No. 1 Killam (Villegas) on Blk. 4, Sur. 1,879 ....T. D. 2,671 ft.; testing.

CAROLINA-TEXAS POOL—WEBB COUNTY

Magnolia Petroleum Co.'s No. 1 Jones-Wright, 330 ft. from S line, 330 ft. from W line, Sur. 674 ....T. D. 5,001 ft.; abnd, dry.
George S. Marshall's No. 1 C. W. Webster, 810 ft. from S line, 150 ft. from W line, Sur. 684 ....T. D. 2,000 ft.; drlg.

COLE FIELD—WEBB COUNTY

Alamo Drilling & Leasing Co.'s No. 2 Benavides, 660 ft. from N line, 660 ft. from E line, Blk. 16, Sur. 694 ....T. D. 1,900 ft.; drlg.
O. W. Killam's No. 1 Bruni, 200 ft. from NW line, 450 ft. from NE line, Sur. 10 ....T. D. 2,970 ft.; drlg.

CHARCO REDONDO POOL—ZAPATA COUNTY

C. R. Moore and J. W. Moore's No. 1 Adela G. de Flores, 330 ft. from NW line, 330 ft. from NE line, Doty Subd. ....T. D. 1,573 ft.; testing.
C. R. Moore and J. W. Moore's No. 2 Adela G. de Flores, 150 ft. from NE line, 150 ft. from SE line, Doty Subd. ....T. D. 50 ft.; standing.

JENNINGS-MARTINEZ-ZAPATA

South Texas Production Co.'s No. 1 Gutierrez, 2,000 ft. from E line, 600 ft. from NW line of Survey 162 ....Rigging up.

JENNINGS-MUCKLEROY POOL—ZAPATA COUNTY

Allied Oil & Gas Co.'s No. 12 Gutierrez, 750 ft. from NE line, 3,663 ft. from SE line, Share 4, Fansler Partition, Comitas grant ....T. D. 1,00 ft.; standing.
Nordan and Morris and Grimm and Yakey's No. 1 S Bustamente, 990 ft. from NE line, 150 ft. from NW line, Share 34, Fansler Partition, Comitas grant ....Derrick.
Pal-Mar Oil Co.'s No. 1 Jose Bustamente, 150 ft. from NW line, 150 ft. from SW line, Share 35, Fansler Partition, Comitas grant ....Derrick.
W. R. Shankle's No. 6 Guiterrez, 1,800 ft. from NE line, 2,989 ft. from NW line, Share 4, Fansler Partition, Comitas grant ....Derrick.
W. R. Shankle's No. 7 Guiterrez, 2,100 ft. from NE line, 2,898 ft. from NW line, Share 4, Fansler Partition, Comitas grant ....Location.
W. R. Shankle's No. 14 Trevino, 150 ft. from SW line, 150 ft from NW line, Blk. 15, Sur. 65 ....T. D. 1,300 ft.; completed for 50 bbls.
W. R. Shankle's No. 15 Trevino, 150 ft. from S line, 450 ft. from E line, Block 14, Sur. 65....Derrick.
S. R. C. Oil Co.'s No. 1 F. Cuellar, 300 ft. from S line, 300 ft. from W line, Blk. 6, Sur. 285 ....Location.
S. R. C. Oil Co.'s No. 2 F. Cuellar, 300 ft. from S line, 300 ft. from E line, Blk. 8, Sur. 19 ....Location.
S. R. C. Oil Co.'s No. 9-A Cuellar, 450 ft. from NW line, 150 ft. from NE line, Blk. 1, Sur. 65 ....T. D. 1,029 ft.; waiting on cement.
S. R. C. Oil Co.'s No. 10-A Cuellar, 150 ft. from NW line, 150 ft. from SW line, Blk. 10, Sur. 65 ....Spudded.
S. R. C. Oil Co.'s No. 1-C Trevino, 150 ft. from NW line, 1,230 ft. from SW cor. of Blk. 14, Cerrito Blanco grant ....T. D. 2,060 ft.; abnd. dry.
S. R. C. Oil Co.'s No. 9-B Cuellar, 660 ft. from SW line, 150 ft. from SE line, Blk. 7, Sur. 65 ....T. D. 200 ft.; drlg.
S. R. C. Oil Co.'s No. 3-C (12-B) Trevino ....Location.
S. R. C. Oil Co.'s No. 12-B Cuellar, 985 ft. from SW line, 110 ft. from NW line, Block 12, Sur. 65....T. D. 1,222 ft.; waiting on cement.
Whicker, Arnold & Ahler's No. 3 Garza, 150 ft. from SW line, 450 ft. from SE line, Blk. 1, Zorro Ranch Subd., Comitas grant ....Rigging up.
J. W. Winch's No. 1 Bustamente, 450 ft. from NW line, 150 ft. from NW line, Blk. 7, Share 5, Fansler Partition, Comitas grant ....T. D. 1,251 ft.; testing.

JENNINGS-CUELLAR POOL—ZAPATA COUNTY

O. W. Killam's No. 1 Slator, Blk. 1, Slator Pasture, Borrego grant ....Spudded.
O. W. Killam's No. 31-C Cuellar, 210 ft. from N line, 925 ft. from SW line, Sur. 278 ....T. D. 1,576 ft.; completed for 100 bbls.
O. W. Killam's No. 32-B Cuellar, Sur. 277 ....Derrick.

MIRANDO VALLEY POOL—ZAPATA COUNTY

O. W. Killam's No. 1 Lopez, 181 ft. from W line, 150 ft. from S line, Blk. 16, Sur. 251 ....T. D. 1,100 ft.; drlg.

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

(Continued from Page 48)

E. S. Price's No. 3 Weiss, 900 ft. due NE of No. 1 Weiss..Location.
E. S. Price's No. 2 Weiss, 900 ft. due SW of No. 1 Weiss, B.&B. Sur. ....T. D. 3,910 ft.; drlg.
Moody-Seagraves Producing Co.'s & Independent Oil & Gas Co.'s No. 1 Welder, 6,280 ft. from S line, 8,150 ft. from E line of Welder tract, Henry Eyles Sur. ....Derrick.
Cosden Oil Co.'s No. 1 Stoltzfus, 2,310 ft. S and E lines of Sec. 14, Rangley Subd. of C. Miller ranch, Uranga Sur. ....T. D. 4,390 ft.; drlg. plugs.
Humble and Huribut et al's No. 1 J. C. Wood, 150 ft. from NW line, 1,144 ft. from SW line of P. T. Irrigation Co. ....T. D. 5,077 ft.; standing.
The Texas Company's No. 1 McCampbell, 150 ft. from N and E lines of 161-ac. tract, R. Pena Sur. ....Location.
E. S. Price's No. 1 Weiss, 200 ft. each way out of NW cor. of B. & B. Sur. ....T. D. 4,414 ft.; reinstated, to deepen.
Rowan and Hope's No. 1 Goree, 600 ft. S, 300 ft. W, Lot 4, T. B. Barton Sur. ....Rigging up.

BEXAR COUNTY

K. M. S. Pet. Co.'s No. 1 E. Salicky, 132 ft. from E line, 10 ft. S line of tract, Blk. 15, Mission Gardens ....T. D. 858 ft.; drlg.
J. M. Russell's No. 1 F. L. Price, 1,500 ft. to N line, 660 ft. W of tract in Angel Navarro Sur. ....T. D. 206 ft.; changing rig.
Snyder, Reeves et al's No. 2 Glasscock, 12 miles NE of San Antonio ....T. D. 200 ft.; skidding derrick.
August Magel's No. 1 Alvin Beck, 520 ft. from W line, 1,300 ft. from S line of Sur. No. 36 ....Location abnd.
Weibacher et al's No. 1 Ernst, 6,400 ft. S line, 900 ft. W line of J. Christopher Sur. ....T. D. 720 ft.; drlg. plugs.
Penn Oil Co.'s No. 1 Kosub, 600 ft. N of NE cor. of Cooksey tract, then 700 ft. E on 176-ac. tract, J. Riall Sur. ....Spudded.
Somerset Syndicate's No. 1 Lagrange, 54 varas from S and W lines of Carrico tract, Sur. No. 48 ....T. D. 375 ft.; shut down.
I. L. Dingman's No. 2 Cassin, 45 varas from N line, 378 varas from E line, Rodriguez Sur. ....T. D. 1,500 ft.; shut down.
J. E. Weatherall and Ben C. Hilman's No. 1 Talley ....Location.
Russell and Moore's No. 2 Mills, 20 ft. S of No. 1, Angel Navarro Sur. ....T. D. 955 ft.; shut down.
Bowman and Waldrop's No. 1 Ridder, 1,000 ft. from S and W lines of 688-ac. tract, J. M. Sur. ....T. D. 1,034 ft.; shut down.

CALDWELL COUNTY

Batts et al's No. 1 E. P. Roebuck, 1,150 ft. from SE line, 2,400 ft. from NE lines of farm, A. Swift Sur. ....T. D. 2,619 ft.; abnd. in sulphur water.
W. D. Anderson's No. 1 Vickery, 150 ft. from N line, 450 ft. from W line of farm, Damon Sur. ....Derrick.
Cargil et al's No. 1 Thomas, 1,505 ft. from E line, 150 ft. from NE cor. of A. W. Jordan tract, J. Roberts Sur. ....Derrick.
Anderson et al's No. 1 J. Barber, 300 ft. from SW line, 1,650 ft. from SE line, 392-ac. tract, Squire Damon Sur. ....T. D. 2,245 ft.; completed for 40 bbls.
Blount and Mills' No. 1 McMahan, 275 ft. from SW line, 75 ft. from SE line of 50-ac. tract, J. Pinchback Sur. ....T. D. 1,000 ft.; drlg.

CALHOUN COUNTY

The Texas Company's No. 1 Thomas in the J. D. Tilly Sur. ....T. D. 5,930 ft.; drlg.

COLORADO COUNTY

Lewis Siegel Drilling Co.'s No. 1 Henderson, 990 ft. from W line, 2,310 ft. from S line, Sec. 1, Blk. 57, T.&P. Sur. ....Location.

COMAL COUNTY

Caldwell & Lanier's No. 1 T. J. Byler, 175 varas from W line, 370 varas from N line of 320-ac. tract in the H.E.&W.T. No. 5,894 Sur. ....T. D. 510 ft.; reaming.
New Braunfels Oil & Gas Co.'s No. 1 Adolph Seidemann, 269 ft. to NE line, 470 ft. to NW line of farm in the A. M. Esneuricals 11-League Sur., 1 mile SE from New Braunfels ....T. D. 2,218 ft.; standing.

DEWITT COUNTY

Penn Oil Co.'s No. 1 Junker, center N half 20-ac. tract, Pettus Sur. ..... T. D. 2,860 ft.; drlg.
H. T. Roe's No. 1 Leinhardt ..... T. D. 2,170 ft.; shut down.
A. H. Gibson et al's No. 1 Von Roeder, 750 ft. N line, 200 ft. E line of farm, W. G. Hill League ..... T. D. 1,541 ft.; standing.
Sheldon Petroleum Co.'s No. 1 Goehring, center of Goehring tract, H. Stubblefield Sur. ..... Location.

DUVAL COUNTY

Sloan et al's No. 1 Luby, SW cor. of Sur. 593 ..... Location.
S. R. C. Oil Co.'s No. 1 Duval County Land Co., Sur. 280 ..... Rigging up.

EDWARDS COUNTY

Phillips Pet. Corp.'s No. 2 A. G. Holman, 320 ft. from N and E lines of SE of tract, C.C.S.D.&N.G.R.G. Sur. No. 25 ..... T. D. 6,290 ft.; drlg.
James Dalgish's No. 2 Peterson, 850 ft. N line, 1,100 ft. W line of Sec. 82, Blk. E in the H.E.&W.T. Sur... Location.
James Dalgish-Morrow's No. 1 Peterson, NW cor. Sec. 82, Blk. E, H.E.&W.T.R.R., NE cor. of county in the H.E.&W.T.R.R. Sur. ..... T. D. 4,525 ft.; drlg.

FRIO COUNTY

A. H. Wray's No. 1 Burns estate, 700 ft. N, 330 ft. E of C Sec. 123, Antone Hupzor ..... T. D. 2,368 ft.; bailing.

GOLIAD COUNTY

A. G. Riemenschneider's No. 1 A. T. Fromme, 275 ft. from N line, 912 ft. W line of 300-ac. tract, P. Dexeter Sur. ..... T. D. 2,330 ft.; shut down.
Gibson Oil Co.'s No. 1 Cyrus Parks, 3,000 ft. S and 2,500 ft. E of NW cor. of Parks ranch, Ferguson Sur. ..... T. D. 4,425 ft.; set casing.
T. B. Slick's No. 1 Poetler, 1,500 ft. from SW line, 900 ft. from SE line of 591 ac. tract, Obid Marshall Sur. ..... T. D. 381 ft.; resumed drlg.

GONZALES COUNTY

Mardon Oil Co.'s No. 1 Borrer, 150 ft. N and W in the James Stewart Sur., 5 miles NW from Waelder ..... T. D. 1,850 ft.; shut down.
Mardon Oil Co.'s No. 1 Robinson ..... T. D. 3,284 ft.; waiting for orders.
United North & South Dev. Co.'s No. 2 Preston, 1,050 ft. NE. 456 ft. NW of upper S or SW cor. of Oethkin one-third league, 900 ft. SE of Preston No. 1.... Location.
Linden Petroleum Corp.'s No. 1 Hensley, 650 ft. from N line, 1,110 ft. from W line Hensley tract, J. Smith Sur.; reinstated ..... T. D. 4,811 ft.; bailing
A. J. Keiffer et al's No. 1 B. B. Dix, 550 ft. W of E line, 2,775 ft. N of S line (Guadalupe River) in the Ira Nash Sur., 4 miles SE from Darst Creek ..... T. D. 2,920 ft.; shut down.
Andibus & Cummings' No. 1 R. D. & J. C. Miller, 533 ft. from S line, 1,000 ft. from E line, Ann Williams Sur. ..... T. D. 1,870 ft.; drlg.
Acme Oil & Royalty Corp.'s No. 1 H. K. Weber, 2,525 ft. from NW line, 2,250 ft. from SW line, Wright Sur. ..... T. D. 2,500 ft.; reaming.
United North and South Development Co.'s No. 1 Wells, 450 ft. each way out of NW cor. of Wells tract, Johnson League ..... T. D. 500 ft.; drlg.

GUADALUPE COUNTY

Guy Lewis' No. 1 Arno Link, 1,500 ft. NE line, 1,155 ft. SE line, Carvajal Sur. ..... T. D. 2,845 ft.; abandoned in sulphur water.
J. S. Suttle's No. 2 A. Baenzinger, 40 ft. E line, 150 ft. S line of tract in the A. O. Mansola Sur., 5½ miles S from Seguin ..... T. D. 1,954 ft.; swabbed oil.
Ray Oil Co.'s No. 1 R. Felsing, 300 ft. NW line, 450 ft. NE line 120-ac. tract in the M. Baker Sur. ..... T. D. 900 ft.; shut down.
Miller & Calhoun's No. 1 Lindenberger, 750 ft. from E line, 650 ft. from S line of 250-ac. tract ..... T. D. 1,278 ft.; temporarily abnd.
Cranfill & Reynolds' No. 1 Meyer, 150 ft. S and E lines 100-ac. tract, J. Canter Sur. ..... T. D. 2,360 ft.; abandoned in sulphur water.
J. S. Suttle's No. 1 Wurzbach, 3,750 ft. from NW line, 2,450 ft. from NE line of Young Settoon Sur. ..... Spudded.
O. K. Emerson's No. 1 C. A. Phillips, center of 80-ac. tract, Velda Sur. ..... Derrick.
Jones and Erwin's No. 1 O. Forrester, 2,700 ft. from NE cor., 450 ft. from NW line, O. Forrester tract, Pate Sur. ..... T. D. 707 ft.; shut down.
Trinity Drillers' No. 2 White, 1,205 ft. from NE line, 50 ft. from SE line, 166-ac. tract, Miller Sur. ..... T. D. 2,201 ft.; abnd.; dry.
Jones and Erwin's No. 1 Hoese, 150 ft. each way out of NE cor. of 200-ac. tract, J. Leal Sur. ..... T. D. 175 ft.; drlg.
Adams and Lyles' No. 1 Seligman, 150 ft. from E line, 300 ft. from S line of 462-ac. tract, John King Sur. ..... T. D. 73 ft.; drlg.

HAYS COUNTY

Hailey & Whittington's No. 1 Heidenrich, 4,900 ft. from NW line, 400 ft. from NE line of farm, Hemphill Sur. ..... T. D. 735 ft.; shut down.
San Marcos Oil & Gas Co.'s No. 1 A. H. Alford ..... T. D. 513 ft.; waiting on cement.

JIM HOGG COUNTY

Cole Petroleum Co.'s No. 1 Allen, 150 ft. from W line, 336 ft. from N line, Blk. 7, Sur. No. 23 ..... T. D. 115 ft.; drlg.
Wm. H. Barnhart's No. 1 McCampbell, 450 ft. to W line, 150 ft. to N line, Lot 33, Barnhart Subd., Los Viboritas grant ..... T. D. 2,005 ft.; standing.
E. E. Watts' No. 1 Gomez, 4,200 ft. to N line, 1,400 ft. to E line of Sur. 125 ..... T. D. 1,565 ft.; drlg.
J. D. Pulliam's No. 1 Jones, 1,020 ft. W line, 1,020 ft. S line, Share 5-A Hinojosa Sur. ..... T. D. 1,602 ft.; standing.
P. H. Wilson's No. 1 Edds, Sur. No. 210 ..... Rigging up.

JIM WELLS COUNTY

J. Walsh et al's No. 1 W. D. Wade, 1,035 ft. NE line, 300 ft. NW line of N cor., Lot 1, Blk. C, W. H. Bode Sur. ..... T. D. 2,475 ft.; standing.

KARNES COUNTY

Clayton & Pierce's No. 1 Barnett in the Alex Hunter Sur., 6 miles N of Karnes City ..... T. D. 3,919 ft.; abnd.; dry.
J. F. Morrissey et al's No. 1 Rigsdale, 660 ft. SW of C of NE line of 170-ac. farm in the McCoull Sur. ..... T. D. 1,900 ft.; drlg.
Hurlbut et al's No. 1 Newberry, 450 ft. SE and SW line of Newberry 428-ac. tract, Carlos Martinez Sur. .... T. D. 2,975 ft.; pulling screen.

KENDALL COUNTY

Borgett et al's No. 1 Haag, W. Avery Sur. ..... T. D. 1,300 ft.; drlg.
Sitten et al's No. 1 Garvin, C of NE of D. L. Richardson Sur. in the D. L. Richardson Sur., 1 mile NE from Kendalia ..... T. D. 900 ft.; drlg.
Dickinson et al's No. 1 Edmonson, 150 ft. from S line, 350 ft. from W line of tract in the J. O. Blair No. 72 Sur., 1 mile NW from Kendalia ..... T. D. 40 ft.; spudded in and shut down.
Dixon Oil Co.'s No. 1 Ottmer Behr, W of H.T.&B.R.R. Sur., 3½ miles SE from Sisterdale ..... T. D. 2,365 ft.; shut down.
P. B. Sterling's No. 1 R. J. McCrocklin, 1,350 ft. from N line, 250 ft. from W line of the B. G. Owens Sur., 4 miles W from Kendalia ..... T. D. 1,405 ft.; drlg.
R. M. Perkins' No. 1 J. Lawhorn, Sec. 10, 2,475 ft. E line, 1,488 ft. S line ..... T. D. 705 ft.; fishing.
Permian Oil Co.'s No. 1 Boles, S.A.&M.G. Ry. Sur. No. 542½ ..... T. D. 1,150 ft.; drlg.
Hardy Sitton's No. 1 McMillan, south central part of 180-ac. lease, B. Williams Sur. ..... Location.
Abercrombie Oil Co. and Harrison Oil Co.'s No. 1 Kunz, 900 ft. from E line, 1,900 ft. from S line of McCormack Sur. ..... T. D. 965 ft.; drlg.

KERR COUNTY

Evans et al's No. 1 Love Ranch, 100 ft. from S line Sur. 1,597, 1,000 ft. E of W line of J. Martinez No. 1,594 Sur. ..... T. D. 2,435 ft.; drlg.

KLEBERG COUNTY

Bowen & Sarles' No. 1 Robert H. Simmons in the A. Houston Sur. No. 611, Sec. 7, King Subd., 150 ft. out of NW cor. of SW ..... T. D. 1,580 ft.; drlg. shale.

KINNEY COUNTY

Magnolia Pet. Co.'s No. 1 Whitehead-Wardlaw, 2,640 ft. W line and S line of Melton Valdez grant ..... T. D. 3,470 ft.; drlg.
Mardon Oil Co.'s No. 2 Jim Clamp ..... T. D. 1,389 ft.; standing.

KIMBLE COUNTY

C. L. Bryant et al's No. 1 Lambert, 7,700 ft. N and W lines of F. Lotta Sur. ..... T. D. 850 ft.; drlg.

LASALLE COUNTY

Fred W. Valz' No. 1 Coleman, 200 ft. from S and E lines of SW Sec. 514, B.S.&F. Sur. ..... T. D. 40 ft.; set casing.

LAVACA COUNTY

Newton Oil Co.'s No. 1 Reeves, cor. of S line of Reeves tract, John Hueser Sur. ..... Ready to spud.

LIVE OAK COUNTY

Jacob, Buzzini & Pickett, Inc.'s No. 1 C. E. Kay, in the Bridget Fadden Sur., 3 miles E from George West... T. D. 915 ft.; shut down.
Houston Oil Co.'s No. 1 D. W. Snyder, 630 ft. from S line, 150 ft. from E line of Snyder tract, T. E. Garner Sur. ..... T. D. 2,448 ft.; drlg.
O. Stalley et al's No. 1 Nichols, 2,000 ft. from W line, 500 ft. from S line in the Ayers Sur. ..... Location.
Illinois Exploration Synd's No. 1 Reeves-Brown, 1,300 ft. S of Sellers tract, 1,800 ft. E of Ry. ..... Derrick.
Sid Keoughan's No. 1 C. E. Terrell, 6,000 ft. from N line, 1,000 ft. from E line, Dan O'Boyle Sur. ..... T. D. 1,989 ft.; drlg.
Tul-Tex Oil Co.'s No. 1 L. Jacobs, 4 miles from N of Callihan Field ..... T. D. 100 ft.; standing.

LEE COUNTY

Burt et al's (M. D. Rickett) No. 1 R. C. Sanders ..... T. D. 3,124 ft.; shut down.
J. P. Perry et al's No. 1 W. H. Thomas ..... T. D. 1,285 ft.; fishing.

McMULLEN COUNTY

Mogul Pet. Co.'s No. 1 Martin, 150 ft. NW line, 150 ft. to SW line of E. Melon No. 212 Sur. .... T. D. 632 ft.; drlg.
Sheree, Brodie and Emick's No. 1 Shiner, Henry Brewer Sur. ..... T. D. 100 ft.; drlg.

MAVERICK COUNTY

Rycade Oil Corp.'s No. 6 Chittim, 1,445 ft. from S, 320 ft. from W of Sec. 7, I.&G.N. Sur. ..... T. D. 3,525 ft.; drlg.
Rycade Oil Corp.'s No. 5 Chittim, 600 ft. W of No. 3 Chittim, 500 ft. E line, 225 ft. from S line of SE Sec. 115, Blk. 7, in the I.&G.N. Sur. ..... T. D. 5,572 ft.; completed; 15,000,000 ft. of gas.
Rycade Oil Corp.'s No. 5 Sullivan, in C of Sec. 82, Blk. 7, in the I.&G.N. Sur. ..... T. D. 7,092 ft.; fishing.

MEDINA COUNTY

National Oil Co.'s No. 1 Howard, 1,750 ft. E of W line, 1,854 ft. N of S line of survey in the John George Sur. No. 9, 10 miles S of Dunlay ..... T. D. 1,675 ft.; standing.
Caldwell et al's No. 1 L. W. Burrell ..... T. D. 2,167 ft.; moving in heavier rig.
Pat Armstrong's No. 1 Crawford, 1,389 ft. N line, 2,550 ft. E line of survey, 487.6 miles W of Devine ..... T. D. 2,606 ft.; shut down.
United North & South Dev. Co.'s No. 1 Little, S from D'Hanis and near S line of county ..... T. D. 3,560 ft.; setting casing.

MILAM COUNTY

Rheubotham & Tate's No. 1 Johnson, 325 ft. from N line, 250 ft. from W line of 40-ac. tract, D. Robinson Sur. ..... T. D. 1,475 ft.; drlg.
Service Oil & Gas Co.'s No. 1 H. G. Hensley, 500 ft. from NW line, 400 ft. from NE line of 50-ac. tract, Valdez Sur. ..... T. D. 2,180 ft.; drlg.
Service Oil and Gas Co.'s No. 1 R. White, 650 ft. from NE line, 900 ft. from NW line of White tract, Levi Taylor Sur. ..... T. D. 840 ft.; drlg.

NUECES COUNTY

Houston Oil Co.'s No. 1 Comstock, 105 ft. N of C of tract.. T. D. 2,324 ft.; drlg.
H. H. Weinert et al's No. 1 Mohle, 450 ft. S line, 450 ft. W line of Sec. 94 ..... Rigging up.
Houston Oil Co.'s No. 1 Joe Hunter, 607 ft. from W line, 165 ft. from S line, 75-ac. tract, Sec. 591 ..... Location.
Calallen Oil & Gas Co.'s No. 2 Allen, 800 ft. from E line, 1,100 ft. from S line, Blk. 76, Garias Sur. ..... T. D. 1,517 ft.; drlg.
H. H. Weinert's No. 1 Mohle, 450 ft. from S line, 450 ft. from W line, Sec. 94, Bishop Subd., Palo Alto lands ..... T. D. 452 ft.; set casing.

REAL COUNTY

McGinley Corp.'s No. 1 Haby, C of SW Sec. 175 ..... T. D. 640 ft.; drlg.

SAN PATRICIO COUNTY

J. L. Kennedy's No. 1 McRae, 1,170 ft. NW of the C of the SE line of 500-ac. tract ..... T. D. 2,152 ft.; shut down.
George B. Pickett's No. 1 Baldwin, 900 varas due E of Denton, 1,200 ft. S of the SE cor. of O'Neil Sur., Abstract 211 ..... T. D. 4,020 ft.; shut down.
Saxet Oil Co.'s No. 1 Carroll, 800 ft. N line, 130 ft. to W line, Lot 32-A, Sec. 32 of the fourth subd., Taft farms ..... Moving in tools.
Cosden Oil Co.'s No. 1 Ramsey, 3,000 ft. from N line, 4,500 ft. from E line, Portillo Sur. ..... T. D. 120 ft.; drlg.
Union Prod. Co.'s No. 4 Welder, 3,000 ft. N line, 4,500 ft. E line of tract in the E. Portillo Sur. ..... T. D. 5,771 ft.; cored sand.
G. B. Peterman et al's No. 1 Crow, 150 ft. from S line, 170 ft. from W line of Sec. 24 of the Fulton-Coleman Pasture Lands, J. H. Paul Subd. ..... T. D. 4,096 ft.; shut down.
G. B. Peterman et al's No. 1 Foster, 150 ft. from E line, 1,420 ft. from N line of Blk. 5 of the Weider-Coleman-Fulton Subd., 3½ miles W from Sinton ..... Location.
LaFeria Oil & Gas Co.'s No. 1 C. C. Smith, in J. C. White Sur., 690 ft. to N line, 350 ft. to E line ..... T. D. 4,067 ft.; shut down.
Cosden Oil Co.'s No. 1 Powell, 330 ft. E line of 36-ac. tract in Sec. 32, Paul Subd., Coleman-Fulton Pasture Lands ..... T. D. 3,227 ft.; drlg.

STARR COUNTY

J. L. Smith's No. 1 Welch, Perdernal Sur. .. .. T. D. 1,060 ft.; drlg.
Virginia Oil Co.'s No. 1 Kelsey-Bass, 150 ft. to S line 1,850 ft. to W line, Blk. 6, Por. 75, Courago ..... T. D. 373 ft.; rebuilding derrick.

TRAVIS COUNTY

Fort Bend Oil Co.'s No. 1 Engleman, 450 ft. N line, 150 ft. W line of 108-ac. tract, J. H. Denson Sur. .... T. D. 885 ft.; shut down.

UVALDE COUNTY

Phantom Oil Co.'s No. 1 Claudt, Sec. 611 ..... T. D. 2,710 ft.; drlg. shale.
Waldrop & Welch's No. 1 E. R. Edmonds, 1,750 ft. NW, 7,200 ft. W of Sec. 71, in the A. Gomez Sur., 8 miles S of Uvalde ..... T. D. 1,610 ft.; shut down.

VICTORIA COUNTY

The Texas Co.'s No. 1 A. M. McFadden, 1,550 ft. N and E lines of H. Bonny Sur. ..... T. D. 5,520 ft.; drlg.

WEBB COUNTY

J. L. Elliott's No. 1 Esperanza Land & Stock Co., 950 ft. from N line, 2,231 ft. E line, Sur. 815 ..... T. D. 1,450 ft.; abnd.; dry.

WILSON COUNTY

Rycade Oil Corporation and Getty Petroleum Co.'s No. 1 J. A. Johnson, 150 ft. from N line, 600 ft. E of railroad tract, Jose de Balmaseda Sur. ..... Building derrick.

ZAPATA COUNTY

T. H. Ward's No. 1 Uribe, 150 ft. NW line, 150 ft. SW line, Blk. 8 Subd., Share 7, Partition No. 6, T. Uribe Partition of Jose V. Borrego Sur. ..... Rigging up.
B. F. Nixon's No. 1 A. Guiterrez, 170 ft. S line, 332 ft. E line, Lot 5, Blk. 8, Partition 10, Borrego grant .... T. D. 50 ft.; standing.
Penny Prod. Co.'s No. 1 Juan V. Cuellar, Jr., et al, 175 ft. NE line, 175 ft. SE line Poppas Subd., Porcion 33 and 34, Blk. 1, Sur. 2 ..... T. D. 1,655 ft.; testing.
National Oil Co.'s No. 1-A Adams, 150 ft. N of No. 1, Blk. 4, Sec. 11, Adams Subd., Borrego grant ..... T. D. 1,320 ft.; coring.

National Oil Co. of Delaware's No. 1 Luther, 617 ft. NW line, 96 ft. NE line, Blk. 97, Da Prom Subd., Porcion 6 ..... T. D. 380 ft.; standing.
Mackenzie and Tallmadge's No. 1 Trevino, 400 ft. SE line, 200 ft. NE line, Blk. 6, Sur. No. 4, Porcion 2 and 3 ..... T. D. 110 ft.; drlg.
F. M. Blair & Son's No. 1 Guiterrez, 150 ft. from NW line, 660 ft. from SW line, Blk. 2, Blair Subd., Comitas grant ..... T. D. 1,750 ft.; drlg.
Lincoln Oil & Gas Co.'s No. 1 Guiterrez, Blk. 33, Subd., La Huerta grant ..... T. D. 1,150 ft.; standing.
J. J. O'Hern's No. 1 S. Benavides, 150 ft. from NW line, 150 ft. from NE line, Blk. 10, Fansler Subd., Villa grant ..... Rigging up.

ZAVALA COUNTY

Ed Anglin's No. 5 Pryor ..... T. D. 1,034 ft.; drlg.
Texas Gas Utilities Co.'s No. 1 Ike T. Pryor, Jr. ..... T. D. 1,211 ft.; tested gas, estimated 20,000,000 ft.
Ed Anglin's No. 6 La Pryor ..... Location.
Carl Cromwell's No. 1 Whitecotton, C of NW Sec. 1, A.P.&M. Sur. ..... Location.
Ed Anglin's No. 1 Matthews, 118 varas from S and W lines of Sec. 4, Blk. 2, L&G.N. Sur. ..... T. D. 950 ft.; set casing.
Texas Gas Utilities Co.'s No. 2 Pryor, 900 varas W, 1,108 varas S of Anglin's No. 3 Pryor ..... T. D. 1,280 ft.; drlg.
F. W. Weigand's No. 1 Gates, 1,320 ft. from N line, 220 ft. from NE cor., Sur. No. 13 ..... T. D. 3,100 ft.; drlg.

GULF COAST FIELDS AND WILDCATS

(Continued from Page 50)

Humble & Valley's No. 11 Thompson ..... Drlg. shale 1,539 ft.; set surface casing.
Humble & Valley's No. 6 Woodley ..... Derrick.
Humble & Valley's No. 7 Woodley ..... Derrick.
Humble & Valley's No. 8 Woodley ..... Derrick.
Humble & Valley's No. 9 Woodley ..... Derrick.
Humble & Valley's No. 10 Woodley ..... Drlg. shale and lime 260 ft.

HUMBLE—HARRIS COUNTY

Cullen West's No. 5 Lee, south ..... Set 12½-in. csg. 965 ft.
John Deering No. 2 Bennett ..... Drlg. gumbo 1,540 ft.
P. S. Griffith's No. 1 fee ..... Rig.
LaRue trustee's No. 1 Crane, northwest ..... Derrick.
M. LaRue trustee's No. 1 Tuffly, northwest ..... No report.
South Texas Pet. Co.'s No. 3 Burt, east ..... Drlg. gumbo, lime and shale 2,122 ft.
South Texas Pet. Co.'s No. 3 Lee (workover) ..... To pump 5,383 ft.
Sun Oil Co.'s No. 14 Bender, west ..... Drlg. hard sand 5,008 ft.
Sun Oil Co.'s No. 16 Bender ..... Derrick.
Sun Oil Co.'s No. 17 Bender ..... Comp. pumping 90 bbls. 4,412 ft.
Sun Oil Co.'s No. 18 Bender ..... Drlg. sand and boulders 2,783 ft.
Sun Oil Co.'s No. 49 River, north ..... Drlg. shale 5,248 ft.
The Texas Company's No. 2 fee ..... Total depth 4,397 ft.; sidetracking 2,678 ft.
The Texas Company's No. 25 House, northeast ..... Comp. pumping 125 bbls. 4,614 ft.
The Texas Company's No. 43 Stevenson, east ..... Sand and shale showing oil 4,396 ft.
Trapshooter Oil Co.'s No. 2 Rosenbaum ..... Drlg. gumbo 3,412 ft.

PIERCE JUNCTION—HARRIS COUNTY

Gulf Prod. Co.'s No. 2 Manchester Corp. ..... Rig.
Mike Kouri's No. 1 Jones fee, northwest ..... Total depth 3,840 ft.; sidetracking shale and lime 3,364 ft.
Rio Bravo Oil Co.'s No. 20-A Settegast ..... Total depth 5,550 ft.; sidetracking 4,913 ft.

BIG CREEK—FORT BEND COUNTY

Gulf Production Co.'s No. 61 Davis ..... Standing.
Navarro Oil Co.'s No. 5 Davis ..... Shale 4,428 ft.; drill stem stuck.

LOST LAKE—CHAMBERS COUNTY

Pure Oil Co.'s No. 5 Lost Lake ..... Fishing stuck drill stem 5,158 ft.
Pure Oil Co.'s No. 12 Lost Lake ..... Drlg. soft sand 980 ft.

NASH—BRAZORIA COUNTY

Rycade Oil Corp.'s No. 27 Wisdom ..... Total depth 5,662 ft.; fishing drill stem 4,333 ft.

SARATOGA—HARDIN COUNTY

Rio Bravo Oil Co.'s No. 100-A Cotton ..... To pump 539 ft.
Rio Bravo Oil Co.'s No. 100-B Cotton ..... Rig.

GOOSE CREEK—HARRIS COUNTY

Humble Oil & Ref. Co.'s No. 78 Simms-Smith ..... Shale 4,993 ft.

SPINDLETOP—JEFFERSON COUNTY

Battleship Oil Co.'s No. 3 Parker ..... Shut down 2,778 ft.
Yount Lee Oil Co.'s No. 52 McFaddin (workover) ..... Total depth 5,329 ft.; comp. pumping 120 bbls. fluid 95% water 2,839 ft.
Yount Lee Oil Co.'s No. 142 McFaddin ..... No report.
Yount Lee Oil Co.'s No. 143 McFaddin ..... No report.
Yount Lee Oil Co.'s No. 144 McFaddin ..... No report.

NORTH DAYTON—LIBERTY COUNTY

Saxet Oil Co.'s No. 2 Davis ..... Drlg. shale 4,475 ft.
Harrison & Abercrombie's No. 1 Gulf fee ..... Total depth 4,952 ft.; set 3 joints screen; sand 4,762-4,809 ft.; comp. flowing 1,150 bbls.
Harrison & Abercrombie's No. 1 Jones ..... Drlg. shale 4,482 ft.
Harrison Oil Co.'s No. 4 Quintette (workover) ..... Drlg. hard sand 4,449 ft.

HIGH ISLAND—GALVESTON COUNTY

Gulf Prod. Co.'s No. 10 Smith ..... Drlg. hard sand 5,505 ft.
Marrs McLean No. 20 Cade ..... Location.

LIBERTY—ORANGE COUNTY

Empire Gas & Fuel Co.'s No. 14 O'Brien ..... Drlg. shale 3,781 ft.
Sun Oil Co. No. 24 Mitchell ..... Comp. pumping 90 bbls oil 980 ft.
Trinity Petroleum Co. No. 1 C. W. Pickett ..... Location.

ORANGE—ORANGE COUNTY

Gulf Prod. Co.'s No. 12 Hagen-Moore ..... Drlg. 2,966 ft.
Orange Pet. Co.'s No. 13 Chesson ..... Drlg. sand and boulders 3,010 ft.
Sun Oil Co.'s No. 3 Gunstream (workover) ..... Comp. pumping 60 bbls. oil 4,280 ft.
Tillery Oil Co.'s No. 2 Tasco (workover) ..... Comp. pumping 20 bbls. oil 3,300 ft.

HULL—LIBERTY COUNTY

Empire Gas & Fuel Co.'s No. 33 Barngrover ..... Comp. flowing 350 bbls. oil 4,150 ft.
The Texas Company's No. 3 Barrow ..... Total depth 4,087 ft.; set screen.

PORT NECHES—ORANGE COUNTY

Gulf Prod. Co.'s No. 1 W. E. Starks ..... Drlg. shale 6,339 ft.
The Texas Company's No. 2 Starks ..... Drlg. hard shale 5,896 ft.

CLAY CREEK—WASHINGTON COUNTY

Sun Oil Co.'s No. 4 Janner ..... Drlg. sandy shale 2,934 ft.
Sun Oil Co.'s No. 1 Freeman ..... Drlg. 1,496 ft.
Sun Oil Co.'s No. 1 F. C. Marcus ..... Set 250-ft. screen 1,286 ft.; comp. flowing 360 bbls.

SOUR LAKE—HARDIN COUNTY

The Texas Company's No. 307 fee ..... Waiting cement to set 2,797 ft.

ESPERSON COUNTY

Cranfill-Reynolds' No. 6 Davis ..... Set 47-ft. screen 2,335 ft.; comp. flowing 160 bbls. pipe line oil.
Cranfill-Reynolds' No. 9 Esperson ..... Drlg. sidetracked hole 1,540 ft.
Cranfill-Reynolds Oil Co.'s No. 17 Esperson ..... Drlg. gumbo 3,845 ft.
Cranfill-Reynolds Oil Co.'s No. 1 Vaydak (workover) ..... Total depth 7,592 ft.; sidetracked to 5,595 ft.; drill stem stuck.
Yount Lee Oil Co.'s No. 3 Moores Bluff ..... Coring sand 7,634 ft.

HANKAMER—LIBERTY COUNTY

Gulf Prod. Co.'s No. 1 Exxel ..... Drlg. sticky shale 5,091 ft.
Gulf Prod. Co.'s No. 9 Boyt ..... Set 2 joints screen 4,003 ft.; comp. flowing 670 bbls.

WEST COLUMBIA—BRAZORIA COUNTY

The Texas Company's No. 80 Hogg (workover) ..... Waiting cement to set 2,716 ft.

DE WALT—FORT BEND COUNTY

Humble Oil & Ref. Co.'s No. 11 Nelson ..... Anhydrite 3,556 ft.; set screen 3,142 ft.; comp. flowing 668 bbls.

BOLING—WHARTON COUNTY

C. S. Thomas' No. 1 Voiney ..... Drlg. gumbo 416 ft.

REFUGIO—REFUGIO COUNTY

Benedum & Trees' No. 1 Rooke (workover) ..... Abnd. 6,666 ft.
Brookins et al's No. 1 Kay ..... Shut down 4,320 ft.
Houston Oil Co.'s No. 1 Rooke ..... Drlg. shale 5,067 ft.
Houston Oil Co.'s No. 2-A Fannie Heard ..... Drlg. gumbo 1,317 ft.
Houston Oil Co.'s No. 1 Doughty ..... Pulling tubing 5,471 ft.
Houston Oil Co.'s No. 1 Tom Heard ..... Pulling tubing 5,470 ft.
Houston Oil Co.'s No. 1 O'Connor ..... Tested salt water 5,873-5,913 ft.; pulling screen
Houston Oil Co.'s No. 1-A Rose Lambert ..... Oil sand 5,901 ft.; cmtd. 6⅝-in.
Independent Oil & Gas Co.'s No. 1 Rose Lambert ..... Oil sand 6,457-61 ft.; cem. 5 3/16-inch casing.
Independent Oil & Gas Co.'s No. 6 Jerry Reilly (workover) ..... Sand and shale 7,618 ft.; plugged to gas sand 3,860 ft.
Independent Oil & Gas Co.'s No. 1 Mercy Academy, (workover) ..... Oil sand 6,375 ft.; cmtd. 5 3/16-in.
Edwin Jones' No. 1 Mitchell ..... Drlg. shale 4,479 ft.
Luling Oil & Gas Co.'s No. 1 Talman, Blk. 104 ..... Drlg. shale 5,802 ft.
Luling Oil & Gas Co.'s No. 1 J. W. Kay ..... Standing 4,928 ft.
Luling Oil & Gas Co.'s No. 1 West ..... Comp. flowing 28 bbls. gasoline on ¾-in. choke, 2,100 pounds pressure, sand 6,461 ft.
Luling Oil & Gas Co.'s No. 1 City, Lot 16, Block 4 ..... Location.
Mission Drilling Co.'s No. 1 Ben Shelton ..... Oil sand 6,445-50 ft.; swabbing.
Mission Drilling Co.'s No. 1 Moss-Heard, Blk. 11 ..... Abandoned 3,120 ft.
Mission Drilling Co.'s No. 1 O'Brien (workover) ..... Standing 5,471 ft.
Mission Drilling Co.'s No. 1 Joe Shay ..... Abandoned 5,477 ft.
Moody-Seagraves Prod. Co.'s No. 1 Linney, Blk. 41 ..... Cavity cmtd. 4,356 ft.
Moody-Seagraves Prod. Co.'s No. 1 Linney, Blk. 42 ..... Standing shut in 4,880 ft.
Moody-Seagraves Prod. Co.'s No. 1 Rooke ..... Gumbo and shale 6,040 ft.; fishing drill stem.
Moody-Seagraves Prod. Co.'s No. 1-A St. John ..... Drlg. shale and lime 5,609 ft.
Moody-Seagraves Prod. Co.'s No. 1 Strauch, Blk. 65 ..... Oil sand 6,451 ft.; drlg. plug 6,444 ft.
Moody-Seagraves Prod. Co.'s No. 5 Morgan-O'Connor ..... Oil sand 5,750-56 ft.; cmted. 8¼-inch csg. 5,739 ft.
Moody-Seagraves Prod. Co.'s No. 6 Morgan-O'Connor ..... Drlg. gumbo 450 ft.
Moody-Seagrave's Prod. Co.'s No. 1 Tom Heard, Blk. 3 ..... Oil sand 6,464-69 ft.; cmtd. 5 3/16-inch csg.
Nichols Oil Co.'s No. 1 Wood ..... Shut down 1,400 ft.
Ed Price's No. 2 Mission River ..... Standing 3,665 ft.
Pearson Properties, Inc.'s No. 1 Hornburg ..... Derrick.
Royal Oil Co.'s No. 1 Hornburg (workover) ..... Oil sand 5,049 ft.; fishing drill stem.
Saxet Oil Co.'s No. 1 L. H. Johnson, Blk. 11 ..... Location.
Saxet Oil Co.'s No. 1 Fox heirs (workover) ..... Total depth 2,963 ft.; setting up larger rig.
Saxet Oil Co.'s No. 12 Clint Heard (workover) ..... Coring 6,273 ft.
Saxet Oil Co.'s No. 1 Ryals (workover) ..... Total depth 5,486 ft.; drlg. sidetracked hole 4,225 ft.
Sun Oil Co.'s No. 3 Rea ..... Cmtd. 10-inch csg. 481 ft.
L. L. Smith's No. 1 Powers, Blk. 85 ..... Cmtd. 9⅝-in. csg. 5,556 ft.
L. L. Smith's No. 1 Rodgers ..... Derrick.
Union Producing Co.'s No. 11 Fannie Heard ..... Drlg. gumbo 1,363 ft.
Union Prod. Co.'s No. 3 Fox ..... Drlg. lime rock 2,351 ft.
Union Prod. Co.'s No. 5 Powers ..... Losing returns 2,300 ft.

SOUTH LOUISIANA FIELDS
LOOKPORT—CALCASIEU PARISH

Union Sulphur Co.'s No. 1 Martha Moss ..... Tested salt water 6,617 ft.; to deepen.
Vacuum Oil Co. and Gulf Ref. Co.'s No. 28 Miller ..... Drlg. sandy shale 5,341 ft.
Vacuum Oil Co.'s No. 30 Miller ..... Drlg. sand and gravel 792 ft.
Vacuum Oil Co.'s No. 31 Miller ..... Location.
Vacuum Oil Co.'s No. 6 Bayou State ..... Drlg. sticky shale 4,385 ft.
Yount Lee Oil Co.'s No. 1 Miller ..... Total depth 7,764 ft.; drilling sidetracked hole 7,300 ft.

EDGERLY—CALCASIEU PARISH

Rex Petroleum Co. No. 13 Hunter ..... Location.

HACKBERRY—CAMERON PARISH

Calcasieu Oil Co.'s No. 2 Landry ..... Spudded.
Calcasieu Oil Co.'s No. 1 State ..... Drlg. gumbo 3,420 ft.
Calcasieu Oil Co.'s No. 21 Watkins ..... Comp. flowing 150 bbls. 3,924 ft.
Calcasieu Oil Co.'s No. 22 Watkins ..... Drlg. gumbo 1,240 ft.
The Texas Company's No. 7 State ..... Heaving shale 4,994 ft.
The Texas Company's No. 8 State ..... Location.
Yount Lee Oil Co.'s No. 32 State Land ..... Oil sand 3,903-09 ft.; cmtd. 7-in. csg. 3,898 ft.
Yount Lee Oil Co.'s No. 33 State ..... Spudded.
Yount Lee Oil Co.'s No. 34 State ..... Location.
Yount Lee Oil Co.'s No. 35 State ..... Spudded.
The Texas Company's No. 36 State ..... Location.
The Texas Company's No. 37 State ..... Location.
The Texas Company's No. 38 State ..... Location.
The Texas Company's No. 39 State ..... Location.
The Texas Company's No. 40 State ..... Location.

JENNINGS—ACADIA PARISH

Yount Lee Oil Co.'s No. 9 Housierre Latrielle ..... Drlg. shale 8,169 ft.

VINTON—CALCASIEU PARISH

Emerson-Moore's No. 1 Gray (workover) ..... Temporarily abnd. 3,406 ft.
Edgerly Pet. Co.'s No. 2 McLean ..... Set 19 ft. screen 3,247 ft.; bailing.
Gulf Ref. Co.'s No. 69 G.&N.G. (workover) ..... Drlg. 3,600 ft.
Gorbat Oil Co.'s No. 1 Clement Lyons ..... Set 40 ft. screen 4,040 ft.; bailing
Lucky Ten Oil Co.'s No. 1 Lizzo ..... Shut down 3,326 ft.
Vinton Pet. Co.'s No. 2 Gray (workover) ..... Total depth 3,132 ft.; pulling screen to deepen.
Vinton Petroleum Co.'s No. 10 Gray ..... Drlg. gumbo 2,949 ft.
Wilson-Broach's No. 2 Wilson (workover) ..... Rig up to deepen.
Wilson-Broach's No. 3 Wilson (workover) ..... Set 26-ft. screen 3,622 ft.; comp. flowing 1,200 bbls. fluid, 6% water on half-inch choke.

BAYOU BOUILLON—ST. MARTIN PARISH

Rycade Oil Corp.'s No. 1 Woodyard Lake ..... Fishing drill stem 6,085 ft.
Rycade Oil Corp.'s No. 4 State ..... Drlg. 4,102 ft.

STARKS—CALCASIEU PARISH

Gulf Ref. Co.'s No. 25 Lutcher-Moore ..... Comp. pumping 120 bbls. 1,242 ft.
I. O. Davis' No. 1 Industrial ..... Shut down 6,176 ft.

SORRENTO—ASCENSION PARISH

Gulf Ref. Co.'s No. 7 United Land Co. (workover) ..... Cavity 1,775 ft.

SWEET LAKE—CAMERON PARISH

Pure Oil Co.'s No. 10 Yount Lee ..... Rig.

SULPHUR—CALCASIEU PARISH

Union Sulphur Co.'s No. 745 Fee (workover) ..... Rig up to deepen.
Union Sulphur Co.'s No. 763 Fee ..... Drlg. gumbo 3,337 ft.
Union Sulphur Co.'s No. 764 Fee ..... Drlg. shale and lime 4,356 ft.

MISCELLANEOUS WILDCATS
TEXAS
AUSTIN COUNTY

Empire Gas & Fuel Co.'s No. 1 Kuntze, San Felipe ..... Drlg. shale 4,859 ft.
O'Hara et. al's No. 1 Schrader ..... Shut down for fuel 1,794 ft.

BRAZORIA COUNTY

The Texas Company's No. 1 Ewin, Harvey Little Sur. ..... Drlg. hard sand and lime 7,372 ft.
The Texas Company's No. 1 J. H. Murdock, Fresno ..... Drlg. sand and shale 4,868 ft.
Mills Bennett Prod. Co.'s No. 2 Reece, Allen ..... Rig.
Mills Bennett Prod. Co.'s No. 2 Random, Allen ..... Location.
Mills Bennett Prod. Co.'s No. 2 Allen ..... Drlg. shale 5,061 ft.
Mills Bennett Prod. Co.'s No. 1 Poole (workover) ..... Total depth 4,873 ft.; pulling liner.
Faust et al's No. 5 Faust ..... Drlg. sandy lime 5,502 ft.
Freeport Sulphur Co.'s No. 2,001 fee, Bryan Heights ..... Total depth 4,261 ft.; sidetracking shale 2,809 ft.
Freeport Sulphur Co.'s No. 2 Seaburn ..... Rig.
Freeport Sulphur Co.'s No. 1 Stratton ..... Salt 1,336 ft.; abandoned.
Freeport Sulphur Co.'s No. 1 Tolar, Stratton Ridge ..... Anhydrite 1,030 ft.
Layne et al's No. 7-A Wisdom, Damon Mound ..... Drlg. hard sandy lime 1,869 ft.

Rycade Oil Corp.'s No. 2 Seaburn, Stratton Ridge ..... Drlg. shale 2,708 ft.
Steel & Strickland's No. 1 Lockbridge ..... Spudded and shut down.
Union Oil Syndicate's No. 1 Speer, A. A. Talmage Sur. ... Rig.

CALHOUN COUNTY

The Texas Company's No. 1 Thomas, J. F. Tilley Sur. ... Drill stem stuck 5,956 ft.

CHAMBERS COUNTY

Chicago Oil Corp.'s No. 1 Lawrence ..... Drlg. shale and lime 4,010 ft.
Shell Pet. Corp.'s No. 2 Herff, Moss Bluff ..... Drlg. sticky shale and lime with streaks of brittle shale 5,314 ft.

GRIMES COUNTY

Cullen & West's No. 1 Bookman, J. Greenwood Sur..... Rig.
Deering et al's No. 1 Munker, Darius Gregg Sur. ..... Drlg. shale 3,056 ft.
Deering & Noble's No. 1 Templeton, 6 miles south of Navasota ..... Shut down 3,500 ft.

HARDIN COUNTY

D. O. Speight's No. 1 fee, near Batson ..... Shut down 2,857 ft.

HARRIS COUNTY

Gulf States Oil Co.'s No. 1 Angsperger ..... Drlg. gumbo and lime 2,556 ft.
Humble Oil & Ref. Co.'s No. 3 Warren, Hockley ..... Drlg. shale and sand 5,186 ft.
Humble Oil & Ref. Co.'s No. 4 Minnetex, Mykawa ..... Building road to location.
Golden State Oil Co.'s No. 1 McDade, N. Brady Sur. ..... Drlg. shale 4,477 ft.
W. C. Turnbow et al's No. 1 Miller, Arthur McCormick Sur. ..... Drlg. gumbo and lime 2,161 ft.

JACKSON COUNTY

Jackson County Oil Syndicate's No. 8 Drushell, Edna .... Gas sand 3,866-70 ft.; cmtd. 6⅝-in csg. 3,864 ft.
Wright Bros.' No. 2 Lee ..... Drlg. sandy shale 3,891 ft.
Warner-Quinlan's No. 1 Hungerford, Henry Smith Sur. .. Location.

JEFFERSON COUNTY

Humble Oil & Ref. Co.'s No. 1 McFaddin, T.&N.O. Sur. 234.. Building road to location.
The Texas Company's No. 4 Pipkin, Big Hill ..... Drlg. sand rock 2,870 ft.

LIBERTY COUNTY

Hamm et al's No. 1 Harvard, Davis Hill ..... Location.
Humble Oil & Ref. Co.'s No. 1 Breeding, Moss Bluff .... Drlg. lime rock 5,719 ft.
Humble Oil & Ref. Co.'s No. 1 Orlando Hylton, Moss Bluff ..... Drlg. shale and sand 6,352 ft.
Humble Oil & Ref. Co.'s No. 1 Sergent, Moss Bluff ..... Drlg. shale and lime 4,886 ft.
Rycade Oil Corp.'s No. 1 Heiskell ..... Drlg. hard shale and lime 5,689 ft.

MATAGORDA COUNTY

H. C. Cockburn's No. 2 Hawkins, Shepherds Mott ..... Drlg. rock 4,026 ft.
Empire Gas & Fuel Co.'s No. 1 Boker, Citrus Grove ..... Drlg. shale 5,796 ft.

MONTGOMERY COUNTY

Lake Creek Oil Co.'s No. 1 Hunt, south of Conroe ..... Shut down 1,350 ft.
Price & Whitehead's No. 2 Guerges ..... Shut down 2,956 ft.

NACOGDOCHES COUNTY

E. L. Burke et al's No. 1 Latimer, Jose De Los Santos Sur. ..... No report.

REFUGIO COUNTY

Blanco Oil Co.'s No. 1 Dorman ..... Shut down 3,120 ft.

SAN JACINTO COUNTY

E. P. Edwards et al's No. 1 Bennett, northwest of Cold Springs ..... Rig.

VICTORIA COUNTY

Houston Oil Co.'s No. 1 McFaddin, C. O. Edwards Sur. .. Drlg. sand rock 4,641 ft.
The Texas Company's No. 1 McFaddin, H. Bonny Sur. ... Drlg. hard shale 5,759 ft.
Lion Oil & Ref. Co.'s No. 2 McFaddin, M. Travlers Sur... Drlg. shale 6,434 ft.
Newton et al's No. 1 West ..... Shut down 1,550 ft.

SOUTH LOUISIANA
ASSUMPTION PARISH

H. H. Given's No. 1 Hudgins, near Hungerford ..... Drlg. gumbo 580 ft.

CALCASIEU PARISH

Crawford Doyle's No. 1 Johnson, Sec. 23-9s-13w ..... Drlg. sand and gumbo 341 ft.
Wilfred Lahay's No. 1 Jardell, Sec. 16-10s-12w ..... Derrick.
R. E. Seiss' No. 1 Vincent, Sec. 30-12s-10w ..... Drlg. gumbo 1,310 ft.
Dr. Thomas et al's No. 1 John Hewitt ..... Location.

CAMERON PARISH

Shell Pet. Corp.'s No. 15 Watkins, Black Bayou ..... Set screen 4,402 ft.; comp. flowing 1,200 bbls. pipe line oil on ¾-in. choke.
Shell Petroleum Corp. No. 2 State, Black Bayou..... Location.
Vacuum Oil Co.'s No. 1 Cameron Meadows, Sec. 21-14s-13w ..... Total depth 5,240 ft.; sidetracking 5,086 ft.
The Texas Company's No. 6 State, Calcasieu Lake ..... Cap rock 1,978 ft.; fishing drill stem.
The Texas Company's No. 7 State, Calcasieu Lake..... Location.

IBERIA PARISH

The Texas Company's No. 6 Vermillion Bay ..... Driving piling.

IBERVILLE PARISH

Gulf Ref. Co.'s No. 1 Gay, Bayou Choctou ..... Spudded and shut down.
Shell Pet. Co.'s No. 5 Wilbert, White Castle ..... Drlg. sand with streaks of sandy lime 4,144 ft.
Standard Oil Co.'s No. 7 Wilbert, Bayou Blue ..... Derrick.
Standard Oil Co.'s No. 8 Wilbert, Bayou Des Glaise ..... Fishing; stuck drill stem 3,640 ft.
Standard Oil Co.'s No. 1 E. B. and S. P. Schwing, Bayou Blue ..... Shut down 4,029 ft.
Standard Oil Co.'s No. 1 Balst Cooperage, Bayou Blue .. Bldg. derrick.

JEFFERSON PARISH

Humble Oil & Ref. Co.'s No. 1 Delaware, Sec. 2-16s-23e.. Drlg. sand 6,415 ft.

JEFFERSON DAVIS PARISH

H. T. McClain et al's No. 1 Trimble Atterbury, Welsh, Sec. 16-9s-5w ..... Rigging up.
Vacuum Oil Co.'s No. 1 Tietje, Roanoke ..... Setting up.

LA FOURCHE PARISH

The Texas Company's No. 1 L.L.&E., Leesville ..... Total depth 5,616 ft.; sidetracking.

PLAQUEMINE PARISH

Gulf Ref. Co.'s No. 2 Buras Levee Board ..... Location.
Humble Oil & Ref. Co.'s No. 2 Cockrell-Moran, Lake Grand Ecaille ..... Cavity 1,057 ft.
The Texas Company's No. 4 State, Garden Island ..... Fish'ng drill stem 4,414 ft.
The Texas Company's No. 5 State, Garden Island ..... Location.

ST. JAMES PARISH

Convent Oil Co.'s No. 2 Uncle Sam, Sec. 28-11s-4e ..... Set screen 1,834 ft.; shut down.

ST. MARTIN PARISH

The Texas Company's No. 3 Iberville Land ..... Location.
The Texas Company's No. 4 St. Martin, Hager ..... Derrick.
The Texas Company's No. 5 St. Martin, Hazer ..... Derrick.

ST. TAMMANY PARISH

Washington-St. Tammany's No. 2 Caussack, Sec. 5-6s-10e ..... Drlg. gumbo 784 ft.

TERREBONNE PARISH

Louisiana Gas & Fuel Co.'s No. 9 Minor, Houma ..... Set 12½-in. casing 1,224 ft.
The Texas Company's No. 1 L.L.&E., Bay St. Elaine .... Derrick.
The Texas Company's No. 5 State, Bay St. Elaine ..... Rig.
The Texas Company's No. 4 State, Caillou Island ..... Location.
The Texas Company's No. 5 State, Caillou Island ..... Drlg. crystallized lime rock 3,942 ft.
The Texas Company's No. 6 State, Bay St. Elaine ..... Location.
The Texas Company's No. 3 State, Dog Lake ..... Drlg. sand rock 5,339 ft.
The Texas Company's No. 4 La. L. & E., Four Isle ..... Drlg. shale and shell 6,131 ft.
The Texas Company's No. 2 La. L. & E., Bay Junop ..... Drlg. rock 5,582 ft.
The Texas Company's No. 6 State, Lake Pelto ..... Derrick.
The Texas Company's No. 6 State, Lake Barre ..... Location.
The Texas Company's No. 7 State, Lake Barre ..... Building derrick.
Th Texas Company's No. 8 State, Lake Barre ..... Derrick.
The Texas Company's No. 9 State, Lake Barre ..... Location.

WEST FELICIA PARISH

Putnam Syndicate's No. 1 Como Plantation, Sec. 51-1e-4w ..... Total depth 3,738 ft.; fishing stuck drill stem.

MISSISSIPPI FIELDS

(Continued from Page 54)

all of Vicksburg; Mississippi Gulf Oil & Gas Co., incorporated by John Glassell, Jr., of Shreveport, La., W. F. Skaggs, James H. O'Reily, Charles Green and R. C. Gaddis, all of Laurel; Central Industrial Gas Co., incorporated by R. B. Dudley of Fort Worth, Tex., George L. Sheldon, internal revenue collector, Jackson, F. E. Stewart, Jackson; and Southern Gas Utilities Co., incorporated by R. B. Dudley, Fort Worth, Tex., W. E. Willis, Jackson, and J. Ed Franklin, Jackson.

The Bay Springs Petroleum Co., Dixie Petroleum Co. and Mississippi Gulf Oil & Gas Co. will drill wells in Jasper, Warren and Covington Counties, respectively.

The Central Industrial Gas Co. and Southern Gas Utilities, Inc., will enter the gas pipe line and distribution field in the Hinds and Rankin area and possibly throughout Mississippi under present plans.

There were no new developments of major importance elsewhere in Mississippi during the week and over in Alabama A. D. Morton's No. 1 O'Neal estate, Section 8-2s-13w, remained shut down at 2,525 feet in white limestone waiting orders. It was the lone test in that State.

Drilling operations follow:

Alcorn County

Alcorn Petroleum Co.'s No. 1 Matthews, SE cor., Section 14-2s-7e, fishing 6-inch and tools 2,392 feet, total depth 2,735 feet.

Attala County

K. A. March's No. 1 Moore, 900 feet west, 457 feet south, NE cor. SE NW, Section 2-15-5e, drilling.

Clay County

Ohio Oil Co.'s No. 1 Cantrell, NE cor., Section 16-15-5, cemented 13⅜-inch at 179 feet in hard black shale.

Chickasaw County

Hightower & Golson's No. 1 Flemming, NE cor., Section 20-13-3, driving 8¼-inch at 1,700 feet.

Grenada County

F. E. West and others' No. 1 Dubard, NW NW, Section 18-22-4, derrick.

Hinds County

Attkisson & Dyer's No. 1 Wiggins, NE cor. NW NE, Section 33-6n-1e, derrick. Cane River Oil & Gas Co.'s No. 1 Kabbes, 1,400 feet east and 900 feet north, SW cor., Section 15-5n-1e, drilling 900 feet. Gulf Refining Co.'s No. 1 McLaurin, 1,410 feet west, 1,230 feet south, NE cor., Section 30-6n-2e, rigging up. Hawkeye Gas Co.'s No. 1 Webster, NW cor. NE NW, Section 15-5-1e, setting 4½-inch top of chalk 2,474 feet, total depth 2,476 feet. Howard Oil Co.'s No. 1 Jackson College, C NW NW, Section 9-5n-1e, rigging up. Jackson Oil & Gas Co.'s No. 1 Central Cotton Oil Co., NW cor. SW NW, Section 3-5-1e, derrick. Dr. Barney Kennedy's No. 1 Fee, 150 feet east, 200 feet north, SW cor. NE NE, Section 34-6-1e, location. Love Petroleum Co.'s No. 1 Maley, SE cor. NW, Section 15-5-1e, standardizing at 2,494 feet. Same company's No. 1 Morton Lumber Co., 1,500 feet east, 1,525 feet north, SW cor., Section 34-6-1e, rigging up. Mississippi Petroleum Co.'s No. 1 Baptist Orphanage, 175 feet east, 130 feet north, SW cor. SE SE, Section 28-6-1e, shut down at 2,475 feet waiting on casing. Same company's No. 1 Solvent Investment Co., NE cor. NE SW SW, Section 14-5-1w, shut down at 2,710 feet in the Wilcox. Mississippi-Texas Oil Co.'s No. 1 Negro Fair Association, SW cor. NW SE, Section 28-6-1e, waiting orders 2,479 feet in black shale. Tri-State Oil & Gas Co.'s No. 1 Wilson, SW cor. SE NE, Section 23-6-1e, derrick. Universal Gas Co.'s No. 1 Sharbrough, SW cor. SE, Section 28-6-1e, shut down at 88 feet.

Jasper County

Bay Springs Petroleum, Inc.'s No. 1 Keyes, C NW NE, Section 21-2n-10e, derrick, preparing to move in rig.

Lauderdale County

Lauderdale Oil & Gas Co.'s No. 1 Lackey, 990 feet south and east, NW cor. NE, Section 2-7-16, abandoned at 3,434 feet. Meridian Oil & Gas Co.'s No. 1 Hauser, Section 33-8-18, abandoned at 2,826 feet. J. R. Smith Oil Co.'s No. 1 Craig, Section 2-16 14, abandoned location.

Lafayette County

Banks-Good and others' No. 1 May, 113½ rods south, 26 rods east, NW cor. SW, Section 22-10-1w, derrick.

Madison County

Mississippi Petroleum Co.'s No. 1 Raymond, 300 feet east, 1,800 feet north, SW cor., Section 32-7-2e, shut down at 706 feet waiting orders.

Lincoln County

Lincoln Oil & Gas Co.'s No. 1 Pat Case, NE cor. NE, Section 21-3-6, abandoned at 2,231 feet.

Monroe County

Amory Development Co.'s No. 1 Bourland, Section 2-13-19, shut down 3,007 feet, waiting orders. Amory Petroleum Corp.'s No. 3 Carter, C SE SE, Section 7-13s-17w, drilling 575 feet, hard sandstone. Same corporation's No. 1 Harris, NE, Section 18-13s-17w, derrick. Associated Oil Co.'s No. 1 School, SW cor. SW SE, Section 16-15-17, shut down 32 feet. P. J. MacAlpine's No. 1 Cowart, NE NE SW, Section 2-12s-9e, drilling hard sandstone 202 feet.

Rankin County

Love Petroleum Co.'s No. 1 Interior Lumber Co., 660 feet north, 660 feet west, SE cor. NW NW, Section 28-6-2e, shut down at 900 feet. Sabine Oil & Gas Co.'s No. 1 Rankin Side Development Co., SE cor. SW NE, Section 6-5-2e, derrick. Gulf Refining Co.'s No. 1 Hamilton, 1,320 feet north, 1,320 feet east, SW cor., Section 4-5-2e, cemented casing to 2,610 feet, top of chalk 2,620 feet, total depth 2,626 feet. Jackson Royalties, Inc.'s No. 1 Pate, NE cor. NE SE, Section 12-5-1e, completed for 50,000,000 feet of gas, top of chalk 2,383 feet, total depth 2,387 feet. Cleve Love and others' No. 1 Brown, C NW SE, Section 12-5-1e, completed for 50,000,000 feet of gas, top of chalk 2,402 feet, total depth 2,407 feet. Pearl River Oil & Gas Co.'s No. 2 Pate, SE cor. SW SE, Section 12-5-1e, top of black shale 2,336 feet, 7-inch set 2,379 feet, drilling plug. Wallace Oil & Gas Co.'s No. 1 Cobb, Section 12-5n-1e, rigging up. Cleve Love and others' No. 1 Muse, SW SE SE, Section 32-7n-4e, derrick. Southern Petroleum Co.'s No. 1 Ivy, Section 12-5-1e, derrick.

Warren County

Dixie Petroleum Co.'s No. 1 Clark, SW SW SW, Section 31-17n-5e, derrick. Vicksburg Oil & Gas Co.'s No. 1 Dornbush, 2,080 feet west, NE cor., Section 8-18-5, shut down waiting on drill pipe at 1,350 feet.

Winston County

Mississippi Drilling Co.'s No. 1 Scarbrough, NW cor., Section 15-13-14e, topped Selma chalk at 848 feet, drilling chalk at 860 feet.

Yalobusha County

Carter Oil Co. and J. W. Collett's No. 1 Blackmur, 330 feet south, 990 feet west, Section 14-11-4w, junking hole at 2,427 feet acount of frozen 6-inch drill stem.

ALABAMA

Lauderdale County

A. D. Morton's No. 1 O'Neal estate, Section 8-2s-13w, shut down waiting orders at 2,525 feet in white limestone.

KANSAS FIELDS

(Continued from Page 44)

Eastborough Pool. Schwartz and others' No. 1 George, NE cor. SW NW, Section 19-27-2, is a rig under construction. Graham Brothers and others' No. 1 Dennison, NE cor., Section 25-27-1, made 25 bbls. in chat 2,986-3,014 feet. Derby Oil Co.'s No. 3 Eastborough, SW cor. NE NW NE, Section 19-27-2, has been completed for 1,350 bbls. in chat 2,976-87 feet. Vickers & Hinkle's No. 4 Keys, NW cor. SW NE, Section 30-27-2, has been completed for 1,800 bbls. in sand 3,251-56 feet.

GERMAN ALCOHOL AGREEMENT

The German government has concluded an agreement whereby 51 per cent of the state motor alcohol monopoly will go to private oil companies, including Americans, British and German. Oil companies involved will sell in Germany only motor fuel containing an agreed percentage of German alcohol.

C. H. LOWN DIES

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CONSOLIDATED PRODUCTS COMPANY, INC.
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LARGE SPUDDER, tools complete. Waukesha motor. National Machine, tools and oil engine. Stalker Oil Co., Alamo Bank Building, San Antonio, Tex.

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MINERAL LAND in Brazoria County, Texas, near to and adjoining producing oil and sulphur fields. Also tracts on geophysical dome prospects and natural surface uplifts. This land is in the most promising region of coastal plains. Will sell at a bargain but must retain a small royalty interest in minerals. Owner, P.O. Box 656, Houston, Tex.

COMPLETE REPORT and valuation made on producing properties—royalty and other interests in Mid-Continent field by practical and experienced man. Small or large interests reported on. Personal inspection made. Fred W. Eastman, 1302 Philtower Bldg., Tulsa, Okla.

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WOULD IT BE A VERY GREAT advantage to you to be financially secure for the rest of your days? Would you exert yourself a little towards making that a reality by helping raise a little money to pay for some labor, material and fuel to drill a well, if we furnished the drilling tools and a thousand acre lease on a bona-fide closed geological structure where producing wells can be seen on the north and south? Great chance to bring in a well with thousand acres behind the investment. Can furnish references to entire satisfaction. Have paid more than four thousand per cent profit to investors on similar deal. Address: National Production Co., First Nat'l. Bank Bldg., Chickasha, Okla.

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Formation favorable; Oil and Gas showings; 1,000 acres with well in proposed deal; $8,600, estimated cost to finish, possibly less.
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ESTABLISHED LOS ANGELES REGULATOR manufacturer wishes to correspond with established firms at Dallas, Tulsa, Houston, Denver, Chicago and New York. Must be capable of diligently prosecuting the sale and service of a general line of oil and gas company pressure regulators and controllers. Firms handling nonconflicting allied products are especially invited to write. Answer Box E-332, The Oil and Gas Journal, Tulsa, Okla.

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FOR SALE—Block of leases in Stanton County and also a number of leases not in block. Buell Scott, Johnson, Kans.

OIL LEASES AND ROYALTIES
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ROYALTIES, Kansas, Texas and Oklahoma, for large and small buyers. List and maps. James R. Haynes, Grantville, Kans.

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Inquiries Invited.
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FORT WORTH NAT'L BANK
FORT WORTH, TEXAS

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OIL INDUSTRY PRINTING

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WANTED

DRILLER'S PROPOSITION on 10,000 acres, Northeast Arkansas and southeast Missouri. Geological report favorable. Can deliver leases now. Compact body.
GREENE CO. DEVELOPMENT CO.,
Box 296,
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PRODUCTION WANTED: Any amount up to 15,000 barrels flush or settled. Send county map, also map of field showing lease, last thirty days oil runs and log of wells. P. O. Box 146, Wall Street Station, New York City, N. Y.

WANTED—OPERATOR to drill 5,000 acre lease in Red River County, Texas. Big play now starting with four wells now going down and five more in prospect.
Albert Wooley,
Clarksville, Tex.

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The OIL and GAS JOURNAL
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TULSA, OKLA.

Chicago Market in Waiting Attitude

Demand for Most Products Light. Feeling Prevalent Prices Have Reached Bottom. Stocks of Jobbers Are Low

By John B. Waldo

CHICAGO, Nov. 3.—This section of the country is being favored with beautiful weather which is a little too springlike for the best demand for petroleum products. The gasoline demand was light for both spot and contract orders this morning but the movement was quite large during the last days of last week. There is a feeling that prices have reached bottom and it is safe to buy now. Several refiners in the Mid-Continent area have advanced their prices an eighth or a quarter of a cent. The present demand reflects the actual consumption more closely than is usually the case for stocks are very low with jobbers at present. Prices show little change, the usual price range being from 4¾ to 5 cents in the open market Group 3 basis. The quantity of gasoline moving at lower prices is limited and decreasing. The demand for the higher tests was very light this morning but the business in antiknock gasoline was more active. Gasoline has dropped into a routine movement of fair proportions.

The crude price changes seem to have been well discounted in the trade. Kerosene is still very listless with small demand and the same prices. The furnace oils are being adversely affected by the continued mild weather. The demand is light and many distributors are obliged to ask refiners to hold shipments until the consumption improves. There was little business this morning but in spite of the slow movement prices on zero oils are very firmly held. The industrial fuel oil movement was quiet today with few inquiries and little demand. The strength of heavy oils continues but there were freer offerings of fuel oils which had a fairly low cold test but are not zero oils. The lubricating oil situation was quiet this morning in fact it was a waiting market in all products.

New Contract Suggestion

A suggestion, at least, of a new form of contract for the purchase and sale of gasoline has been made in this market by a large concern and probably by more than one. The contract provides for a guarantee of 1½ cents above the regular Q.D.A. allowance by the Standard and other major companies in this city. The present Q.D.A. is 5 cents below the service station price in Chicago to all buyers of 1,000 gallons during any one calendar month. At the present time this would give the buyer a guarantee of a margin of 6½ cents below the service station, which margin would vary with any changes in the Q.D.A. by the major companies as well as the station price. It seems very unlikely that the discount will be increased while there are a good many reasons why it should be decreased, so that the refiner, if he can stand the present price which such a contract would net him, would probably be pretty safe from any increase in the amount of the discount allowed customers of the major companies. The resistance shown by the majors to declines in the tank wagon schedule also suggests that any reductions from the present local service station price will be small and temporary. The buyers provide against any chance of a material reduction in the discounts allowed customers on their monthly purchases and a decline of the station prices by including in the contract an option to purchase at the going market price as determined in the usual way. The quantity of motor gasoline which would be taken under this contract is stated, by various concerns who have been given an opportunity to figure on it, to range from 10,000,000 to 20,000,000 gallons annually. This variation may be due to the fact that more than one concern is asking for the contract. The quantity of material which would be contracted for makes the trade very willing to entertain the proposition but the novelty of the contract provisions makes them rather slow to close. It must be assumed that the contract should give the refiner who extends the price some special consideration on the other material purchased by the distributor.

Variations in Contracts

On the face of it, this contract would not be much more liberal than that which is being signed daily by many distributors. The average refiner will willingly sign up a contract which gives the jobber a 6-cent margin and possibly a certain amount is also included for advertising expense. It is quite commonly rumored that certain jobbers have secured a half cent more in their contract than 6 cents. Some sales managers are very certain that this is not the case while others are equally sure that some such contracts are being made. The trouble with many contracts is that there is some variation made in them, some little allowance for this or that service, some reduction in other commodities provided the contract maker uses a certain monthly quantity of U. S. Motor, that it is hard to make accurate comparisons, but the general sense of the situation is that the great competition for contracts which means business has resulted in the giving of more liberal terms than the refiners would have given, say, two years ago. There is considerable talk among the refiners about the excessive markins allowed to jobbers and the like, but so long as there is more gasoline produced than there is a demand for it, it will be a sellers' market with all that that implies.

Fair Movement

In spite of reports made by some in the industry regarding poor business and low prices, there is a very fair movement of gasoline. The trouble seems to be that the demand is not as much larger than a year ago as expected and that some of the preparations made for a larger business have been just additional expense without any increase in the profits. As one of the major executives said, there has been a larger demand but there are so many more trying to get some of the business that none of us have done as well in gallonage as last year. The prediction has been made that last October might not show an increase of more than 3 per cent over October of 1929. But this is based on the gradual decline in consumption as compared with last year and does not take into account some local variations in this territory.

Every tank car distributor who has been asked states his concern has sold more gasoline during October than September and give as the reason for this fact that attempt made to advance gasoline prices by Group 3 refiners at the first of September. The resistance of buyers to the increase was so strong that prices were soon back at the former figure. Many were able to buy at the former prices for a brief period after the proposed advance became known and many took in enough gasoline to last them for three or four weeks when the strength of the market had been spent. This left a more acceptable price for October deliveries and the result has been more buying. Not only has there been more buying but there have been a considerable number of contracts made and the wary jobber seems to have made up his mind that whatever may happen to prices for gasoline during the remainder of the year, no better contracts will be offered than are being offered right now.

Price Situation Stronger

The gasoline price situation is apparently a little stronger. It may be that it is because it is the beginning of the month which brings in a lot of shipping instructions or because of the stock condition in the Mid-Continent Field. The reports available show that gasoline stocks are getting into good shape in that field and that there is no excessive supply of gasoline there, at least with a continuance of the present demand.

Higher Gravities

The higher gravities have suffered this week in demand as well as in price. The 60-62 400 endpoint has sold within an eighth of a cent of the price of U. S. Motor, and in fact sales have been made of a good 60-62 400 endpoint at less than other concerns were selling the motor grade. The 64-66 gravity has done a little better, not being so freely offered, particularly in the export trade. The sale of Ethyl Gasoline is showing almost startling gains, one of the major companies reporting an increase of 52 per cent in its station sales and 27 per cent in its total gasoline sales.

Kerosene Uneven

Kerosene has not changed much as to demand or price. The sale is rather limited and the movement is more or less uneven—to the extent that some concerns have a good business one week and do little or nothing the next and the same thing seems to apply to all sellers of kerosene. The prices have held in spite of crude declines and light demand.

Furnace Oils Fair

The demand for furnace oils is very fair, considering the weather, which is not cold enough for a really active demand. The distributors are well stocked and there is a lull until they have a larger movement from their storage. There has been no report from oil men regarding any smaller buying on the part of their consuming trade but the coal men state the buying is light and it is no uncommon thing for automobiles to drive to their yards and buy a bag or two of coal at a time. This "cash and carry" business is new to the coal dealers. The peddler trade is also reported as active. These coal peddlers drive to the yard and buy a load of coal or coke which they sell in smaller lots to their trade. The furnace oil business has shown nothing of this but has the usual number of customers who wait until the last minute before ordering and require rush service. The demand is growing, according to several distributors in the gas oils and the less expensive fuels, and is getting away from distillates in the newer installations. Even some of the smaller type of bungalow burners now can be operated on gas oil.

The market for zero gas oils is very strong and the supply is not large as many refiners are under contract for practically all that they will produce. Distillates are steady in price but are much more freely offered than are the zero gas oils. Some of the distillates are discriminated against for being not entirely satisfactory, usually in regard to the odor. It is unfortunate that there is not some positive method available to test the smell of distillate. The matter of like or dislike depends on the smell of the individual and an odor may be but slightly objectionable to one and very much more so to another. Again there are some oils which do not seem to be more than a trifle sour when cold but develop surprising odors when heated in the burner. A good distillate of prime white color, a straw gas oil with a low flash, are selling at very nearly the same price of 3 cents to the trade. The high gravity fuel oils are also firm. The skilled distributor who has a properly equipped plant will produce any gravity and flash desired from a skillful blending of oils and therefore does not carry as full a line as some others, but he must select his oils with regard to their blending qualities. Some of these distributors insist that all blends should be made of heated oils to insure a permanent blend which will not separate when delivered to the consumer.

Gas Oils Weaker

The U.G.I. gas oil is a little weaker, according to buyers, although it is admitted that the difference is but slight. The idea seems to be that with the lower costs for crude the refiner will not operate his cracking plants and that he will have a larger output of straightrun gas oil and a smaller demand for it for cracking. The demand has not been active but it is hoped that with the coming of colder weather and longer nights the demand will improve and that the gas companies will have occasion to operate their water gas plants. Some material which, while not full U.G.I. specifications, is still being accepted by some gas companies, could be bought at 2 and a fraction or possibly at 2 cents, but the full specification material was generally held at 2⅛ to 2¼ cents to the reseller or to the larger consumers.

Fuel Oil Unchanged

The industrial fuel oil situation shows really no change. The expected decline due to the cut in crude has not shown up yet, the only reductions being made on high viscosity, high cold test oils which are not wanted. Take a good quality 18-22 fuel oil. The ordinary cold test oils will bring less than 45 cents on the market, while it is difficult to find a refiner who will sell a zero oil of the same gravity at 55 cents, Group 3.

Tank Wagon

There has been no change in the tank wagon scale as the result of the reduction in Mid-Continent crude and at this writing none is expected for some little time. In fact if conditions make it possible, the present tank wagon scale will be held indefinitely. The trouble is that as the price of crude was changed as the result of cut prices, there may be such a number of points at which the price has been cut in this territory that the major companies will be forced as a matter of protection of their gallonage to reduce their quotations. In this city where a general cut in the price has been avoided so far by the majors, there is to be found in use every form of cut prices and several new variations. A dealer commenting on this condition remarked he was willing to wager that he received more actual money for each carload of gasoline sold at his cut prices than the regulars did from their higher prices. He claimed that every gallon of gasoline sold in any of his stations was paid for before the car left his station, that he had no losses from bad debts, made no private discounts or special agreements, simply selling for cash at what he considered was a fair price. Several salesmen for large refining companies which have their own stations agreed that in all probability the cut price dealer was right, but, they argued, there is a real necessity for both the cash price and the credit price and they had not been able to figure out quite to their customers' satisfaction a plan whereby they could sell at two prices, charging the smaller price to the cash customer.

Easier Tone in the East Coast Market

Follows Crude Reductions. Larger Refinery Stocks and Seasonal Decline in Consumption. No Price Reductions

By A. E. Mockler
New York Bureau, The Oil and Gas Journal, Rooms 1919-21, No. 154 Nassau Street

NEW YORK, Nov. 3.—Sweeping reductions in crude oil prices, together with a further increase in refinery holdings of gasoline and other products, rumors of a pending cut in Gulf export prices and a seasonal falling off in gasoline consumption have all combined to bring about an easier tone in the East Coast refined products market. While there have been no price reductions in important products during the period, the week's developments have gone far in dissipating the feeling of confidence which had been developing during the closing half of October, and the markets are now back in about the same position they were a month ago.

Refined products consumers are watching closely the efforts of the industry to stabilize markets by the curtailment of output until surplus holdings reach the "working stocks" level, but until the success of this attempt is more clearly evident, it is unlikely large buyers will be weaned from their hand-to-mouth buying habits. Large buyers would like to see the market stabilized, even at higher prices, as such stability would make their own operations more even, but they are not inclined to help to hasten the day when this stability becomes a reality if they must run the risk of being caught with heavy stocks themselves on a price break, and notwithstanding recent betterment in underlying market conditions, it is felt the danger of such recessions in various divisions of the market is by no means passed.

Favorable weather conditions throughout the eastern area have made for a slightly better consumption of motor fuel during the week, refiners and marketers reporting a slight upturn in their gasoline volume. Notwithstanding this development, surplus stocks at refineries recorded a further gain.

Refinery Gasoline

The posted price for U. S. Motor remains unchanged at 7¾ cents, but the market is disturbed by underselling, and some price shading is reported by sellers who are compelled to meet this competition. Sale of a large cargo of "outside" gasoline from the Pacific Coast was reported at a laid-down price considerably under the posted schedule here, and the possibility of further sales from this quarter is causing the market here some uneasiness.

Both California and the Gulf have offered U. S. Motor gasoline during recent weeks at laid down prices substantially under the tank car quotation here, and, while a cargo price is not fairly comparable to the tank car quotation, this cutting has necessarily made for easy sentiment among marketers.

Considerable business is reported to have been done in the tank car market at prices ranging all the way from 7 cents up to the posted level, f.o.b. refinery terminals, and business has been done in barge lots at 6½ cents and less.

Prices are not posted at the refinery on premium grades, aside from aviation gasoline, but the market for the premium fuels has necessarily fluctuated in sympathy with the market for U. S. Motor. Every effort is being made by refiners to further stimulate the sale of premium gasolines, and considerable success is attending these efforts, notwithstanding the higher prices charged for these special blends.

While the year still has two months to go, refiners and marketers are casting up their sales totals and estimating the expected volume during the remainder of 1930. While most of the major interests will show substantial gains in gallonage over 1929, some marketers are expected to record losses in volume. The industry as a whole, naturally, will show much smaller earnings from gasoline producing and marketing operations, despite the aggregate gain in gallonage, this being a reflection of the extreme competition which has prevailed during the greater part of the year.

Tank Wagon Gasoline

Eastern marketers are considerably interested in proceedings which the State of Delaware is starting against marketers operating in that State, charging conspiracy in maintaining retail prices. The State's complaint is based upon the charge that one company, dominating the market, names the price and other operators follow, and the governor of Delaware is quoted as declaring a number of oil companies have assured him of their willingness to reduce prices if their competitors do likewise.

No general revisions in tank wagon or service station quotations have been made in eastern territory this week, and schedules for both deliveries are still extremely flexible, being dependent in large measure upon the degree of "local competition" encountered. Leading companies are still carrying forward their programs of integration of marketing operations though acquisition of retail stations, and it is expected the competitive situation will improve steadily as this tendency expands.

Tank wagon distribution in some of the East Coast territory is narrowing down as the winter season arrives. Numbers of pumps along the roads in the mountainous vacation areas are about through for the season and "routes" of the tank wagon departments serving these relatively out-of-the-way stations are in many cases being discontinued until the spring season. This is especially true in the Adirondacks sections and in many places in New England where combination roadside stands and service stations are closing down for the season.

Kerosene

Sharper weather has brought about another upswing in demand and the market position is somewhat improved. Refiners are quoting 41-43 water white at 6¾ cents in tank car lots at refinery terminals, and this quotation is being rather closely adhered to by the principal sellers, although in some isolated instances the price is being cut to meet competition from Pennsylvania.

Tank wagon gallonage has picked up in the kerosene market, and a steadier undertone is in evidence. Widespread unemployment in some of the industrial centers of the East, it is said, is being accompanied by a more general use of kerosene heaters in an effort to reduce fuel costs during the cold weather.

There is a good export inquiry for cased kerosene, but the foreign market for the bulk product is adversely affected by the sharp competition offered by Russian and Rumanian refiners.

Lubs

The cylinder oil market has been rather uneventful. Spot buying continues along restricted lines and export trading in the open market is also of limited volume. The large integrated companies with foreign distributing connections have been moving sizable quantities of cylinder oils into distribution for several weeks.

Pennsylvania refiners are still carrying burdensome surpluses of lub oils in some instances, and selling pressure which creeps into the market from time to time has brought about a lack of confidence in underlying conditions on the part of large buyers. The latest series of crude cuts has likewise been a factor in engendering bearish market sentiment, indicating the probability of lower prices for competing lub oils in the near future.

Industrial demand for red and pale oils has shown a little upturn, it is reported, with spindle oils and other textile lubs coming in for a slightly better call. Prices remain unchanged on both the red and pale oils.

Wax

Spot demand continued sluggish and the market remained unchanged at the lower price levels put into effect during the previous week. Domestic consumers were reported holding down inventories at a minimum, and it was expected this policy would be adhered to for at least the balance of the current year.

South America and the Far East were in the market for fully refined in a moderate way, and it was reported several fair-sized transactions were put through, both here and at the Gulf, although this business in most instances involved price concessions.

Fuel Oil

Standard Oil Co. of New Jersey announced a reduction of 5 cents to $1 per barrel for bunker "C" oil at Curacao, the cut having been made effective October 24.

Locally, the fuel oil market was without change, business holding up fairly well. The bulk of the movement to the marine trade was along contract lines, with a rather quiet spot demand noted. Refiners quoted the market unchanged at $1.05 per barrel in bulk, f.o.b. terminals. Industrial demand has shown a little improvement, and a steady gain in consumption is looked for over the balance of the year. Many large office buildings, factories, apartments, etc., use the heavy oil for heating.

Diesel Oil

Refiners continued to adhere to the posted quotation of $2 a barrel, and a moderately active call was noted. A number of new motorships are now coming into service in the New York trade and this is making for a continued growth in consumption by the marine trade. More than half the world tonnage now building is of Diesel vessels, assuring the industry of continued expansion in consumption in this direction.

Domestic sales of Diesel oil are still picking up slowly, and, while it will be some years yet before the industrial market rivals the marine market, refiners consider the domestic market very promising, and are devoting considerably more sales attention to this end of the business as its possibilities become more generally recognized.

Gas Oil

Conditions in this division of the market have shown little change. Refiners continue to hold the posted quotation for 28 plus gas oil at 5¼ cents in tank car lots at the refinery, but the market is being shaded all the way down to 4¾ cents on some of this business. Consumption is gaining slowly as the large gas manufacturing companies in the East increase their contract withdrawals.

Low-grade gas oils are coming in for a heavier demand as consumption of furnace oil picks up.

Furnace Oil

The market is active, but showing a little unsettlement as price shading on spot business develops in a few quarters of the market. The bulk of the business is on contract, however, and price cutting is being confined to spot sales.

While definite figures on the increase in furnace oil business this year are lacking, it is reported generally that the season's total will register a substantial gain over that for last year.

Export Market

Rumors of a contemplated reduction of one-quarter cent in posted prices at the Gulf have effectively quieted the Gulf export market this week. A number of leading oil companies are reported to favor the proposed cut, and rumor has it that the reduction will be ratified shortly by the export group.

Pending some definite action along this line, export buyers have temporarily withdrawn from the market. Four or five cargo inquiries were in the market at the time the rumor made its appearance in midweek, but they were immediately withdrawn.

Export interest in the minor refined products continued quiet along routine lines.

Imports

Imports of crude and refined petroleum at the principal United States ports for the week ended October 25 totaled 1,815,000 bbls., a daily average of 259,285 bbls., compared with 1,921,000 bbls., a daily average of 274,429 bbls. for the previous week and a daily average of 252,929 bbls. for the four weeks ended October 25. Details follow:

	Bbls. of 42 gals.
At Atlantic Coast ports—	
Baltimore	142,000
Boston	110,000
New York	1,173,000
Philadelphia	117,000
Others	171,000
Total	1,713,000
Daily average	244,714
At Gulf Coast ports—	
Galveston district	63,000
Tampa	39,000
Total	102,000
Daily average	14,571
At all United States ports—	
Total	1,815,000
Daily average	259,285
Daily average four weeks	252,929

Distribution of total imports is as follows:

Crude	885,000
Gasoline	434,000
Fuel oil	496,000

Petroleum Exports

Recent quiet in trading in local export circles has been accompanied by a slackening in the movement of refined products into export channels through the local port. There was a general falling-off in export shipments during the week ended October 25. New business in the open market has continued of relatively small volume, and this is expected to make for a continued moderate movement of products during the next few weeks.

The following table shows principal exports of refined petroleum products from New York the past three weeks (all figures in gallons unless otherwise noted):

	Week ended		
	Oct. 25	Oct. 18	Oct. 11
Gasoline	120,000	175,000	150,000
Naphtha	85,000	425,000	610,000
Kerosene	8,000	20,000	265,000
Fuel oil	210,000	230,000	12,000
Lubricating oil	1,050,000	1,185,000	4,000,000
Petroleum, ref.	475,000	436,000	2,295,000
	Pounds		
Petrolatum			190,000
Paraffin wax	2,620,000	3,160,000	2,150,000
Refined	205,000		490,000
Scale	1,150,000	25,000	780,000
Lubricating grease	910,000	650,000	960,000

Export operators are viewing with considerable concern the steady growth of the refining industry in a number of foreign countries which have hitherto been among the largest buyers of American re-

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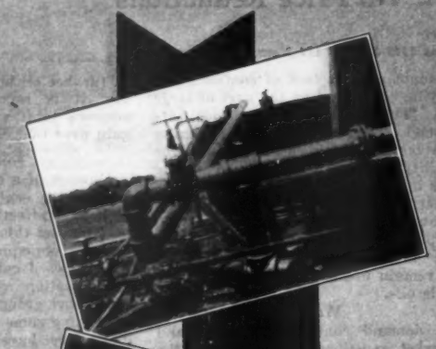

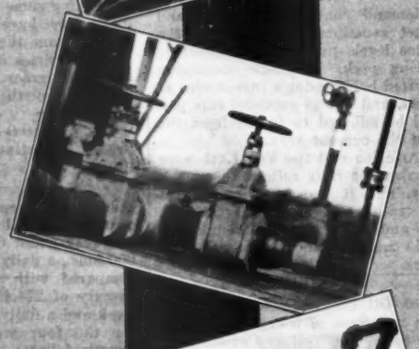

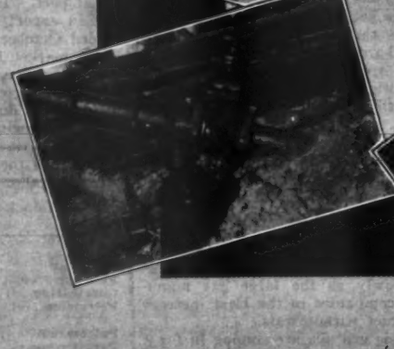

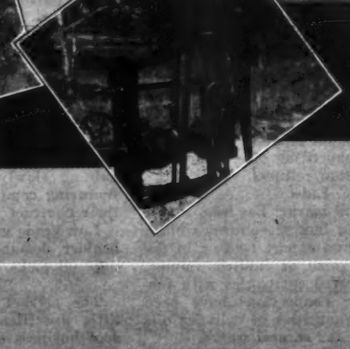

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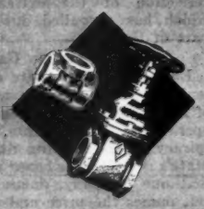

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Manufacture of Natural Gasoline

Laboratory Always An Essential Part Of Plant Operation

By H. J. Hunter
Columbian Gasoline Corp.

The successful operation of a gasoline plant requires much practical knowledge which is most advantageously obtained by experience. Also a certain amount of working knowledge of theoretical fundamentals can be applied to the operation of the plant by a properly functioning laboratory and engineering force.

It is seldom convenient or economical to maintain a corps of engineers or laboratory technicians at each plant and for that reason these departments are usually operated from a central point. The functions or duties of the production or operating department, the engineering department and the laboratory very often overlap to a point where it is hard to determine where the dividing line comes. As a result, the work in question is usually delegated to the most efficient department. We are assuming, however, that all are equally efficient and will discuss only the part played by an efficient laboratory towards producing a maximum of efficiency to a gasoline plant.

When a new plant is being built, the laboratory should collect and analyze a number of samples of the gas to be treated to obtain a representative idea of the quality of the gas to be treated. This would include the volume of any particular kind of gasoline that should be recovered, any particular characteristics of the gas, such as abnormal percentages of certain constituents, presence of and quantity of sulphur compounds, etc.

When the plant is placed in operation, all necessary apparatus for routine testing of the gasoline and gas at the plant is obtained and a competent man instructed in the method of conducting all routine tests directly connected with the plant operation and shipment of the gasoline. This plant laboratory is constantly being advised of new methods and improvements and technic of making these tests. The size of the plant laboratory is dependent upon a number of circumand conditions such as, volume of production, distance from central laboratory, source of gas, etc.

In a large plant considerable distance from the main laboratory, the plant laboratory more nearly approaches the size of the main one if a large number and variety of tests are to be conducted. In addition to the plant control work, the settlement tests of the gas being treated is one of the most important of the duties of the laboratory. These tests often involving large sums of money, either made or lost for the company.

The laboratory is responsible for determining the quality of the absorption oil from time to time used in the plant, and advising the operating department of the proper oil rate necessary to obtain the required percentage of extraction from the gas, also the condition of the oil leaving the distillation unit, in order to check the distillation efficiency. The quality of the gasoline produced must constantly be checked regarding sales and shipping specifications. If the gasoline is treated for sulphur compounds, the laboratory is responsible for the correct testing of the treating solutions, as well as the finished product. The water treating plants are also controlled by tests made by the laboratory.

In addition to testing of the various materials in the plant, periodic plant tests are made. These tests include checking the volumes, pressures and temperatures of the gas in and out of the absorbers and of the oil cycle from the absorbers through the heat exchangers, preheaters, still back through the exchangers, coolers and into the absorbers again. Also the gasoline and vapors from the still through condensers, cooler tanks through the fractionator, in fact the plant is checked from the absorbers to the tank car, the laboratory advising the plant supervisor of any irregularities in the pressures, temperatures, volumes or any other condition in the plant.

These plant check tests are backed up at less frequent intervals by a complete plant survey of all materials and physical conditions existing in the plant, and a report made of the conditions based upon fundamental analyses and calculations of the various materials. The laboratory also stands ready to make any tests, chemical analysis or investigations pertaining to any abnormal condition or conditions that come up from time to time in all plants.

The function of the laboratory ceases and the work is completed when the final report is turned in. The laboratory staff should never assume any responsibility of the operation of the plants. Its duty being to obtain certain facts regarding certain conditions, and at times make certain recommendations. The carrying out of these recommendations is at the discretion of those in charge of the plant.

One stumbling block in the effort to obtain successful co-operation between the laboratory and production departments is that of confidence in the laboratory recommendations. A large number of plant operators who when acting upon suggestions made by the laboratory, even though these suggestions are based upon accurate tests and sound information, discover that their production has not increased do not take into consideration a number of possible reasons for the failure to increase the production such as, changes in gas supply, temperature pressures, etc. Also the plant operator often does not consider the actual cost of pro-

(Continued on Page 135)

DROP IN NATURAL GASOLINE STOCKS IS LARGEST SINCE SEPTEMBER, 1929

The largest monthly decline in natural gasoline stocks since September, 1929, was recorded in September, 1930, when reports to the United States Bureau of Mines showed total stocks at the plants fell from 31,261,000 gallons on the first day of that month to 22,429,000 gallons on the last day, a drop of 8,832,000 gallons.

Production, which declined during May, June, July and August, remained stationary in September. The total output in September was 171,300,000 gallons, a daily average of 5,710,000 gallons, which was the same average as that reported for August. The production in most of the states and districts was virtually unchanged from that of August. The most marked changes were recorded in the Oklahoma City Field, where production rose materially, and in California, the leading producing State, where there was a drop from 68,900,000 gallons in August to 64,300,000 gallons in September. Oklahoma City's output increased from 2,700,000 gallons to 3,800,000 gallons. Seminole production dropped from 18,900,000 gallons in August to 18,000,000 gallons in September. Only minor differences were shown elsewhere.

Blending of natural gasoline by refiners increased in September, and this in conjunction with the continued curtailment in output had a material effect on stocks.

(Thousands of gallons)

	Natural gasoline: Production Sept., 1930	Production Aug., 1930	Production Sept., 1929	Production Jan.-Sept., 1930	Stocks end of month Sept., 1930	Stocks end of month Aug., 1930	Blended motor fuel Sept., 1930: Natural gasoline used	Naphtha or other oils used	Stocks end of month
Appalachian	4,700	4,900	6,700	65,300	1,972	2,589	81	126	216
Ill., Ky., etc.	800	800	900	9,200	195	254	....	1	5
Oklahoma	44,800	45,000	59,200	449,100	9,123	13,495	180	170	107
Oklahoma City	3,800	2,700	(*)	24,900	843	721	32	19	9
Osage County	6,300	6,400	6,900	56,900	2,475	5,183	6	3	2
Seminole, etc.	18,000	18,900	31,700	202,900	1,759	2,574	27	26	49
Rest of State	16,700	17,000	20,600	164,400	4,046	5,017	115	122	47
Kansas	2,300	2,300	2,700	23,900	832	1,173	5	2	7
Texas	41,700	42,100	37,300	359,300	7,104	10,476	240	402	144
Panhandle	21,600	22,400	17,800	183,300	3,038	5,497	78	80	22
North Texas	3,400	3,600	3,800	32,500	631	888	51	53	23
West Central	12,100	12,300	12,200	110,400	2,957	3,567	93	247	88
Rest of State	4,600	3,800	3,500	33,100	478	524	18	22	11
Louisiana	5,300	5,400	5,200	55,000	626	710	8	5	7
Arkansas	2,600	2,800	2,800	23,900	278	273	225	265	26
Rocky Mountain	4,800	4,700	4,300	39,200	578	689	...	...	...
California	64,300	68,900	73,000	612,000	1,721	1,602	...	...	...
Long Beach	14,300	14,900	19,300	129,800	....	...	...	...	...
Ventura Avenue	4,700	5,000	6,800	45,000	....	...	...	...	...
Seal Beach	1,900	2,000	3,800	21,500	....	...	...	...	...
Huntington Beach	2,500	2,700	3,400	25,400	....	...	...	...	...
Santa Fe Springs	15,400	16,100	24,700	160,500	....	...	...	...	...
Rest of State	25,500	28,200	16,000	229,800	....	...	...	...	...
Total	171,300	176,900	192,100	1,636,900	22,429	31,261	739	971	512
Daily average	5,710	5,710	6,400	6,000	....	...	...	...	...
Total (thousands of barrels)	4,079	4,212	4,574	38,974	534	744	18	23	12
Daily average	136	136	152	143	....	...	...	...	...

*Included under "Rest of State."

TURNER VALLEY PLANT

CHATHAM, Ontario, Nov. 1.—An American firm is reported to have contracted for the gas production of the East Crest wells, estimated 25,000,000 feet or better, and will, it is stated, begin at once to erect the first unit of an absorption and scrubbing plant at an initial cost of $500,000. This plant, to be in operation by midsummer, will extract high test gasoline from the residual gas after it passes through the separators; the product, estimated between one-quarter and one-third gallon to 1,000 feet of gas, coming from the plant ready for commercial use. The East Crest production will provide one-third of the requirements of the plant, and the company has optioned its future residual gas production as well.

California Natural Gasoline Yield for September Declines

Decrease of 1,881 bbls. in the daily average production of natural gasoline in September, as compared with the August output, in California is shown by reports from plants. The 138 plants, with a daily indicated capacity of 2,480,100,000 feet of gas, report a recovery of 64,286,976 gallons of natural gasoline from the 47,612,685,000 feet of gas treated in September.

Santa Fe Springs led the list with 15,360,719 gallons recovered from 10,747,599,000 feet of gas. Long Beach was second with 14,314,303 gallons recovered from 7,279,170,000 feet of gas. Midway and Ventura Avenue ran close in point of volume produced, Midway producing 4,231,730 gallons and Ventura Avenue 4,737,081 gallons, but a marked divergence in percentage of recovery is seen in the fact that Midway's production was from 2,656,747,000 feet of gas, while Ventura Avenue's was from 4,717,981,000 feet.

Utilization of natural gasoline amounted to 1,610,843 bbls., a decrease under August of 46,821 bbls. Daily average utilization of 53,695 bbls. was 2,674 bbls. more than daily average production of 51,021 bbls.

Stocks of natural gasoline at the end of September amounted to 1,720,576 bbls., of which 37,219 bbls. were reported by natural gasoline plant operators and 1,683,357 bbls. by refinery operators. This is a decrease of 80,201 bbls. under August stocks. This stock figure of 1,720,576 bbls. is approximately 32 days' supply at the current rate of consumption.

CALIFORNIA NATURAL GASOLINE PRODUCTION, DISTRIBUTION AND STOCKS, SEPTEMBER, 1930

Production by Fields

	Gas treated (1,000 cu. ft.)	Natural gasoline prod. (gals.)
Fullerton and Whittier	625,131	1,233,381
Midway	2,656,747	4,231,730
Huntington Beach	859,415	2,488,621
Long Beach	7,279,170	14,314,303
Richfield	653,419	838,770
Santa Fe Springs	10,747,599	15,360,719
Seal Beach	1,192,581	1,879,203
Ventura Avenue	4,717,981	4,737,081
All other fields	18,880,642	19,203,168
Total	47,612,685	64,286,976

Production by Methods

Type of Plant—	Gas treated M.C.F.	Natural gasoline prod. (gals.)	Gasoline recovery per M.C.F. gas treated
Oil absorption	39,052,422	51,923,473	1.330
Compressor	217,167	254,368	1.171
Combination compressor and oil absorption	8,343,096	12,109,145	1.451
Total	47,612,685	64,286,976	1.350
Finished gasoline produced at plants		23,041 bbls.	

Distribution

	Bbls.	Bbls.
Stocks first of month		1,800,777
Produced during month		1,530,642
Quantity mixed with crude or unfinished oils	95,975	
Used in blending at refineries	1,494,842	
Stocks end of month	1,720,576	
Balance*	20,026	
Total	3,331,419	3,331,419

Stocks

	Gallons	Bbls.
Natural gasoline held by natural gasoline plant operators	1,563,188	37,219
Natural gasoline held by refineries	70,700,994	1,683,357
Total	72,264,182	1,720,576

*Includes evaporation losses, purchases by jobbers for blending, etc.

Brief Items for Petroleum Refiners

GASOLINE CONSUMPTION DECLINES 2.9 PER CENT

Gasoline consumption in 44 states for the month of August, 1930, as indicated by reports made by wholesalers and dealers in the various states, under provisions of the gasoline tax laws or gasoline inspection laws, totaled 1,075,998,000 gallons, compared with 1,108,256,000 gallons in August, 1929, a decrease of 32,258,000 gallons, or 2.9 per cent. Daily average consumption for August, 1930, was 34,710,000 gallons, compared with a daily average of 35,297,000 gallons in July, 1930, a decrease in daily average during August of 1.7 per cent.

Gasoline consumption in these 44 states for the eight months ending with August, 1930, amounted to 7,243,586,000 gallons, compared with 6,772,881,000 gallons for the corresponding period of 1929, an increase of 470,705,000 gallons, or 6.9 per cent.

Consumption during August for the states of New York and Illinois is also shown.

The figures giving the quantity of gasoline sold or offered for sale, as reported under various laws, follow. In some cases they are gross figures before deductions allowed for small quantities of gasoline reshipped or sold for other than taxable use, the tax upon which, if paid, is subsequently refunded. All figures are subject to revision.

GASOLINE CONSUMPTION BY STATES, AUGUST, 1930

	Tax per gallon cents	Aug., 1930 (gallons)	Aug., 1929 (gallons)
Alabama	4	15,717,000	17,634,000
Arizona	4	6,193,000	5,972,000
Arkansas	5	12,552,000	15,012,000
Colorado	4	18,360,000	18,105,000
Connecticut	2	22,875,000	22,108,000
Delaware	3	4,466,000	3,782,000
District of Columbia	2	7,165,000	6,665,000
Florida	6	16,599,000	16,585,000
Georgia	6	21,114,000	25,705,000
Idaho	5	7,223,000	6,992,000
Indiana	4	43,825,000	46,323,000
Iowa	3	37,614,000	38,724,000
Kansas	3	36,573,000	40,117,000
Kentucky	5	16,588,000	16,856,000
Louisiana	4	15,960,000	17,130,000
Maryland	4	16,986,000	17,414,000
Massachusetts	2	55,199,000	55,652,000
Michigan	3	79,736,000	86,125,000
Minnesota	3	43,158,000	43,676,000
Mississippi	5	*12,574,000	14,000,000
Missouri	2	40,087,000	41,372,000
Montana	5	8,436,000	8,059,000
Nebraska	4	21,530,000	23,889,000
Nevada	4	1,976,000	1,909,000
N. Hampshire	4	8,843,000	8,325,000
New Jersey	2	55,645,000	54,037,000
New Mexico	5	5,441,000	4,768,000
N'th Carolina	5	20,469,000	21,611,000
North Dakota	3	17,399,000	19,430,000
Ohio	4	97,693,000	100,974,000
Oklahoma	4	29,446,000	30,889,000
Oregon	4	17,727,000	18,075,000
Rhode Island	2	9,247,000	9,227,000
So'th Carolina	6	10,976,000	11,595,000
South Dakota	4	15,211,000	16,352,000
Tennessee	5	21,111,000	19,399,000
Texas	4	73,283,000	73,608,000
Utah	3½	5,895,000	6,123,000
Vermont	4	6,355,000	6,547,000
Virginia	5	22,887,000	22,420,000
Washington	3	27,593,000	27,333,000
West Virginia	4	14,585,000	14,254,000
Wisconsin	2	49,359,000	48,190,000
Wyoming	4	4,328,000	4,993,000
Total		1,075,998,000	1,108,256,000
Dy. average		34,710,000	35,750,000
Increase over previous year: Amount of increase		†32,258,000	.....
Percentage inc. in dy. av.		†2.9%	.....
Illinois	3	94,920,000	.....
New York	2	157,629,000	.....

*Estimated. †Denotes decrease.

GASOLINE EXPORTS

WASHINGTON, D. C., Nov. 3.—Gasoline exports by customs districts for the week ending October 18 were as follows: New York, 8,992 bbls.; Philadelphia, 104,715 bbls.; New Orleans, 570,303 bbls.; Galveston, 172,504 bbls.; San Pedro, 419,128 bbls.; Port Arthur, 217,342 bbls., and San Francisco 20,000 bbls. —C. E. K.

ASSOCIATED BUILDING LARGEST CRACKING UNIT AT AVON PLANT

SAN FRANCISCO, Calif., Nov. 1.—The Associated Oil Co. has started construction at its Avon refinery near here of what will be the largest single cracking plant in the refining industry. The plant, which will cost approximately $2,000,000, will have a capacity sufficient to handle 10,000 bbls. of fresh fuel oil charging stock daily.

The company decided to build the plant after an extended investigation of cracking operations and the particular requirements of the company. The Associated company has not operated cracking plants at its California refineries except for a small unit which has been shut down for several years.

The construction of the new plant will be the first of the Tube and Tank type, controlled by the Standard Oil Co. of New Jersey, to be located on the West Coast. The unit, in addition to its large capacity, will incorporate special features which have been developed by the manufacturing department of the Associated.

The unit will have two furnaces and will be the high-pressure type. The installation will include bubble towers, treating plant, rerun stills and power plant. The plant will be located on the site of Avon refinery, which has a rated crude oil capacity of 60,000 bbls. daily.

Grading work for the plant has already started and it is expected that the unit will be in operation by June 1, 1931. E. B. Badger & Sons Co. are in charge of construction.

CONTROLLING INTEREST IN DIAMOND OIL BOUGHT

SALT LAKE CITY, Utah, Nov. 3.—The Temple Petroleum Corp., recently organized by Seattle and Spokane, Wash., capital, has purchased a controlling interest in the skimming plant and shallow production of the Diamond Oil Co. in southwestern Utah. The new corporation will remodel and enlarge the plant and also drill additional wells.

The plant in Virgin, Utah, has been operated for several years during the main gasoline consuming season supplying a local trade. The Diamond company will continue to have an interest in the plant. The company has been engaged in wildcat drilling in the Rocky Mountain territory.

John Shewell of Salt Lake City, Utah, is president of the Temple corporation. M. S. McDonald of Spokane, Wash., is secretary and treasurer. Offices are at 304 Vermont Building in this city.

DIVISION SAFETY MEETING

SHREVEPORT, La., Oct. 31.—Thirty-one men comprising five teams took part in the second annual first aid contest held here October 29 under the auspices of the Louisiana-Arkansas division of the Mid-Continent Oil and Gas Association, and directed by T. J. O'Sullivan, assistant secretary of the divisional organization. The major prize, a cup awarded by the Mid-Continent division, which becomes the permanent possession of the team winning it three times, was awarded to Team No. 2 of the Standard Oil Co. of Louisiana at Baton Rouge. Last year Skelly Oil Co.'s team from El Dorado, Ark., won it. First and second awards went to Team No. 5 of the Louisiana Oil Refining Corp. at the Gas Center plant of Shreveport, and Team No. 4 of the Ohio Oil Co. at Haynesville. Third prize went to Team No. 3 of the Louisiana Oil Refining Corp. of the Bossier City plant, and the fourth to Ohio Oil Co.'s Cotton Valley team. In addition to these team kits and individual first aid kits were presented to the members of the several teams by the Mine Safety Appliance Co., Bullard-Davis Co. and E. D. Bullard Co.

In the evening a dinner was attended by over 160 team members, refinery superintendents, gasoline plant superintendents, department heads and a majority of the field and gang foremen of the companies who are stressing accident prevention and first aid work. Principal talks on safety work were made by J. J. Forbes of the United States Bureau of Mines, Pittsburgh; W. H. Vaughn, superintendent gasoline department, Gulf Refining Co., Shreveport, and Don J. Wallace of Tulsa, director of the general Mid-Continent Oil and Gas Association's safety division.

BUYS CONTROL OF VALVOLINE

NEW YORK, Oct. 29.—E. W. Edwards, president of the Paragon Refining Co., recently taken over by Gulf Refining, and also head of the Valvoline Oil Co., has acquired majority control of Valvoline through the purchase of 32,227 shares of the outstanding stock for $6,000,000. Mr. Edwards' holdings constitute 83 per cent of the outstanding stock of the company.

The block of stock involved in the transaction was acquired by Paragon Refining last year. A few months ago Gulf acquired properties, business and assets of Paragon Refining, with the exception of its interest in Valvoline Oil Co. At the time of the Gulf transaction, Mr. Edwards offered to buy from Paragon its Valvoline stock, paying the same price at which it was acquired from Valvoline Oil Co. officers.

At the time of the purchase of Valvoline control by Paragon, according to Mr. Edwards, he was given a contract permitting him to purchase this stock from Paragon before a certain date at a specified price. Prior to the designated date, however, a shareholder sued to prevent the transfer of the stock from Paragon to Edwards. The result was a court order directing the stock to be transferred.

Liquidation of Paragon Refining Co. is progressing satisfactorily, said Mr. Edwards, and it is expected that directors will declare a liquidating dividend of between $10 and $12 a share on the common stock shortly.

FRENCH REFINERIES

WASHINGTON, D. C., Nov. 3.—Large refineries for petroleum are to be erected in France, one on the Tancarville Canal banks and the other on the lower Seine, according to advices received from Trade Commissioner Taylor, writing from Paris. According to agreements with refining companies, crude imports will soon amount to 1,500,000 tons annually—C. E. K.

DIESEL ENGINES IN RUSSIA

NEW YORK, Nov. 3.—The production of Diesel engines in Russia is expanding rapidly, according to Amtorg Trading Co., the 1928-29 output being nearly double that of 1927-28 (81,000 horsepower as compared with 45,800 horsepower). The production in 1929-30 is expected to double that of the preceding year.

TEXAS MAY TAKE OVER INDIAN REFINING CO.

NEW YORK, Nov. 3.—The Texas Corporation has offered to acquire Indian Refining Co. through a stock exchange on the basis of one share of Texas for every eight shares of Indian common. The acquisition is dependent on the deposit on or before December 15 of 75 per cent of Indian Refining stock with the Guaranty Trust Co. of New York for exchange. The Texas Corporation reserves the right to declare the offer binding when 51 per cent of Indian stock has been deposited. The offer is subject to the right of The Texas Corporation to examine the records and property of Indian Refining Co. and to determine on or before December 20 whether it finds them satisfactory.

The Texas Corporation's offer is in line with rumors during the past year linking the names of the two companies. Indian Refining in July last year started producing lub oil under the Govers wax-free process and its sales showed a substantial increase, but profits suffered in line with the general depression in the industry. The Indian Refining plant in Lawrenceville, Ill., is expected to become a part of Texaco's manufacturing department.

Indian a few years ago disposed of its producing properties and has been working under a contract whereby it took most of its crude requirements from the pipe line owned jointly by The Texas Corporation and the Empire Gas & Fuel Co. running from the Mid-Continent to Chicago. Total assets reported by Indian Refining as of June 30, this year, amounted to $26,777,035, includes $850,000 for the Havoline trademark.

Indian Refining has not paid a dividend. The rate on The Texas Corporation is $3 annually, which is equivalent to 37½ cents per share on each share of Indian Refining.

EMLENTON REFINING CO. BUILDS CRACKING UNIT

OIL CITY, Pa., Nov. 3.—The Emlenton Refining Co. has begun construction at its plant in Emlenton of a Dubbs cracking unit to cost $250,000. This is the last major project in a $1,000,000 expansion and improvement program. The new unit will be of 1,000 bbls. daily capacity. The plant is being erected under the provisions of the Universal Oil Products Co., of Chicago, owner and licensor of the Dubbs cracking process.

During the last 18 months a program of expansion has been carried on at the Emlenton plant and $750,000 has already been expended for boiler and filter house improvements and the construction of distilling units, together with other equipment, until the plant is considered one of the best equipped of its size in the eastern United States.

The products of the Emlenton Refining Co. are marketed through the Sterling Oil Co. with distributing outlets throughout a wide territory.

RECOMMEND TARIFF ON CRUDE

CHICAGO, Nov. 3.—At a meeting of committees of the Independent Oil Men of America and the Independent Petroleum Association held to consider joint action of the two organizations in regard to a tariff on crude, a favorable decision was reached by the committee from the Independent Oil Men of America and the membership will be asked to take action in favor of a tariff. According to members of the committee there was no discussion of a possible merger of the two organizations.

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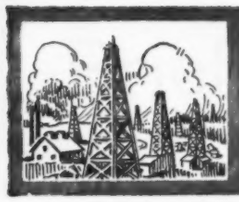


REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

GASOLINE AND NAPHTHA

OKLAHOMA (Group 3)—	Nov. 4		Oct. 28		Oct. 21	
50-52 450 endpoint	.05	.05¼	.05	.05¼	.05¼	.05½
56-58 450 endpoint	.04¾	.05	.04¾	.05	.05	.05½
*58-60 437 endpoint (U. S. Motor)	.0563		.0590		.0608	
*60-62 437 endpoint	†.05¼	.05½	†.05¼	.05½	†.05½	.06
*60-62 400 endpoint	.0625		.0631		.0663	
*64-66 375 endpoint	†.06		.0688		†.06¼	
68-70 360 endpoint	.05¾	.06	.05¾	.06	.06½	.06¾
64-66 437 endpoint (blend)	.05	.05¼	.05	.05½	.05¼	.05¾

*Weighted average prices November 3, October 27 and 20 as reported by representative refiners. Sales to jobbers only. †No sales reported. Prices show general market.

NORTH TEXAS—						
50-52 450 endpoint	.05	.05¼	.05	.05¼	.05¼	.05½
58-60 450 endpoint	.04¾	.05	.05	.05¼	.05¼	.05½
58-60 437 endpoint (U. S. Motor)	.04⅞	.05¼	.05	.05¼	.05¼	.05½
60-62 400 endpoint	.05¼	.05½	.05¼	.05½	.05½	.05¾
64-66 390 endpoint	.05⅝	.05⅞	.05½		.05⅝	.05¾
64-66 375 endpoint	.05½	.05¾	.05⅝		.05⅞	.06
68-70 360 endpoint	.06		.06	.06¼	.06¼	.06½
64-66 437 endpoint (blend)	.05	.05¼	.05	.05¼	.05¼	.05½
*NORTH LOUISIANA—						
58-60 437 endpoint (U. S. Motor)	.06¼	.06½	.06¼	.06½	.06½	.07
*ARKANSAS—						
58-60 437 endpoint (U. S. Motor)	.06¼	.06½	.06¼	.06½	.06½	.07
PENNSYLVANIA—						
52-54 Naphtha	.06¾		.06¾		.06¾	
54-56 Naphtha	.06¾		.06¾		.06¾	.07
58-60 Gasoline	.06¾		.06¾		.06¾	.07
60 Gasoline	.06¾	.07	.06¾	.07	.06¾	.07
62 Gasoline	.07		.07		.07	.07¼
64 Gasoline	.07½		.07½		.07½	.08
68-70 350 endpoint gasoline	.08½		.08½		.08½	.08¾
CALIFORNIA—						
†58-60 437 endpoint (U. S. Motor) domestic	.08	.11	.08½	.11	.08½	.11
†60-62 400 endpoint domestic gasoline	.09½	.11½	.10	.12	.10	.12
CHICAGO DISTRICT (Based on Group 3)—						
50-52 450 endpoint (Naphtha)	.05		.05¼		.05¼	
56-58 450 endpoint	.04¾	.05	.05		.05	.05¼
58-60 437 endpoint (U. S. Motor)	.04¾	.05¼	.04¾	.05	.05	.05½
60-62 400 endpoint	.05	.05¼	.05	.05¼	.05¼	.05½
64-66 375 endpoint	.05⅝	.06	.05¾	.06	.06¾	.07
64-66 437 endpoint (blend)	.04¾	.05¼	.05¼	.05¾	.05¼	.05¾
68-70 360 endpoint	.06¼	.06½	.06	.06¼	.07	.07¼
‡GULF COAST (Export)—						
58-60 U. S. Motor	.07		.07		.07	
60-62 400 endpoint	.07½		.07½		.07½	
61-63 390 endpoint	.07¾		.07¾		.07¾	
64-66 375 endpoint	.08		.08		.08	

*Louisiana, Arkansas, Mississippi and East Texas delivery. †For local consumption. ‡Prices posted by Export Petroleum Association, Inc.

NATURAL GASOLINE

OKLAHOMA (Group 3)—	Nov. 4		Oct. 28		Oct. 21	
Grade A, 72-79.9, 375 e.p., rec. 90%	.04½	.04⅝	.04¾		.05¼	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.04½		.04¾		.05¼	
Grade B, 76-83.9, 375 e.p., rec. 85%	.04½		.04¾		.05¼	
Grade BB, 84-92, 375 e.p., rec. 85%	.04½		.04¾		.05¼	
Grade C, 80-92, 375 e.p., rec. 78%	.04½		.04¾		.05¼	
NORTH TEXAS—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.04½		.04¾		.05¼	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.04½		.04¾		.05¼	
Grade B, 76-83.9, 375 e.p., rec. 85%	.04½		.04¾		.05¼	
Grade BB, 84-92, 375 e.p., rec. 85%	.04½		.04¾		.05¼	
Grade C, 80-92, 375 e.p., rec. 78%	.04½		.04¾		.05¼	
NORTH LOUISIANA—						
Grade AA, 80-87, 375 e.p., rec. 90%	.04½	.04¾	.04¾	.05	.05¼	.05½
Grade BB, 84-92, 375 e.p., rec. 85%	.04½		.04¾		.05¼	.05½
Grade C, 80-92, 375 e.p., rec. 78%	.04½		.04¾		.05¼	
CALIFORNIA—						
75-78, 375-390 endpoint	.07	.09	.07	.09	.07	.09
CHICAGO DISTRICT (Based on Group 3)—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.04½		.04¾		.05¼	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.04½		.04¾		.05¼	
Grade BB, 84-92, 375 e.p., rec. 85%	.04½		.04¾		.05¼	

BURNING OIL

OKLAHOMA (Group 3)—	Nov. 4		Oct. 28		Oct. 21	
41-43 water white kerosene	.03⅛	.03¾	.03⅛	.03¾	.03⅛	.03¾
42-44 water white kerosene	.03¼	.03¾	.03¼	.03⅞	.03¼	.03⅞
NORTH TEXAS—						
41-43 water white kerosene	.03	.03¼	.03	.03¼	.03	.03¼
40-41 water white kerosene	.02⅞	.03	.02⅞	.03	.02⅞	.03
*NORTH LOUISIANA—						
41-43 water white kerosene	.04	.04¼	.04	.04¼	.04	.04¼
*ARKANSAS—						
41-43 water white kerosene	.04	.04¼	.04	.04¼	.04	.04¼
PENNSYLVANIA—						
43 Kerosene prime white	.04¾		.04¾		.04¾	
45 Kerosene water white	.04⅞	.05¼	.05	.05¼	.05	.05¼
46 Kerosene water white	.05	.05¼	.05	.05¼	.05	.05¼
CALIFORNIA—						
38-40 water white Kero. (high burning test)	.05	.06	.05	.06	.05	.06
CHICAGO DISTRICT (Based on Group 3)—						
41-43 water white kerosene	.03	.03¼	.03	.03¼	.03	.03⅜
42-44 water white kerosene	.03¼	.03½	.03¼	.03½	.03¼	.03½
‡GULF COAST (Export)—						
41-43 prime white	.06		.06		.06	
41-43 water white	.05		.50		.05	

*Louisiana, Arkansas, Mississippi and East Texas delivery. †Prices posted by Export Petroleum Association, Inc.

FUEL OIL

OKLAHOMA (Group 3)—	Nov. 4		Oct. 28		Oct. 21	
Below 18 gravity Fuel Oil, per bbl.	.45	.50	.45	.50	.45	.50
18-22 Fuel Oil, per bbl.	.52½	.57½	.52½	.57½	.47½	.52½
20-22 Fuel Oil, per bbl.	.55	.60	.55	.60	.50	.57½
22-26 Fuel Oil, per bbl.	.60	.65	.60	.65	.55	.60
24-26 Fuel Oil, per bbl.	.65	.70	.65	.70	.65	.70
26-30 Fuel Oil, per bbl.	.70	.75	.70	.75	.70	.80
28-30 Fuel Oil, per bbl.	.80	.90	.80	.90	.85	.90
32-36 Gas Oil (industrial)	.02⅛	.02¼	.02⅛	.02¼	.02⅛	.02¼
32-36 Gas Oil (straw color, high cold test)	.02¼	.02½	.02¼	.02½	.02¼	.02½
32-36 Gas Oil (straw color, low cold test)	.02⅝	.02⅞	.02⅝	.02⅞	.02⅝	.02¾
36-38 Distillate	.02¾	.02⅞	.02¾	.02⅞	.02¾	.02⅞
38-40 Straw Distillate	.02¾	.03¼	.02¾	.03¼	.02¾	.03¼
NORTH TEXAS—						
Below 20 gravity Fuel Oil, per bbl.	.40	.50	.40	.50	.35	.50
24-26 Fuel Oil, per bbl.	.55	.65	.55	.65	.55	.65
32-36 Gas Oil (industrial)	.02	.02¼	.02	.02¼	.02	.02¼
38-40 Straw Distillate	.02¾	.03	.02¾	.03	.02¾	.03
*NORTH LOUISIANA—						
18-20 Fuel Oil, per bbl.	.75	.85	.80	.85	.80	.85
30-32 Gas Oil	.03	.03¼	.02⅞		.02⅞	
*ARKANSAS—						
33-36 Distillate	.02¾	.03	.02¾	.03	.02¾	.03
30-32 Gas Oil	.02¾	.02⅞	.02¾	.02⅞	.02¾	.02⅞
16-22 Refinery Fuel Oil, per bbl.	.65	.70	.65	.70	.65	.70
GULF COAST (South Texas)—						
Gas Oil	.03¾		.03¾		.03¾	
Bunker C Fuel (cargo lots), per bbl.	.62½	.67½	.62½	.67½	.65	.70
Bunker C Fuel (small lots)	1.00		1.00		1.00	
PENNSYLVANIA—						
30-34 Fuel Oil	.03¾		.03¾		.04	
36-40 Fuel Oil	.03⅞		.03⅞	.04	.04	.04¼
CALIFORNIA—						
33-36 Distillate	.02	.02½	.02	.02½	.02	.02½
26-32 Distillate	.01¾	.02	.01¾	.02	.01¾	.02
15-20 Fuel Oil, Bunker (at tidewater)	.60	.95	.65	.95	.65	.95
15-20 Fuel Oil (cargo lots), per bbl.	.55	.85	.60	.85	.60	.85
27 plus Diesel, per bbl.	.85	1.00	.85	1.00	.85	1.00
CHICAGO DISTRICT (Based on Group 3)—						
18-22 Fuel Oil, per bbl.	.57½	.65	.57½	.62½	.55	.60
22-26 Fuel Oil, per bbl.	.65	.70	.65	.70	.62½	.67½
28-30 Fuel Oil, per bbl. (zero)	.90	.95	.90	.95	.90	.95
32-36 Gas Oil (zero)	.02½	.02⅞	.02½	.02⅞	.02½	.02⅞
32-36 Gas Oil (industrial)	.02¼	.02⅜	.02¼	.02⅜	.02¼	.02⅜
38-40 Straw Distillate	.02¾	.03	.02¾	.03	.02¾	.03

*Louisiana, Arkansas, Mississippi and East Texas delivery.

LUBRICATING OIL AND WAX

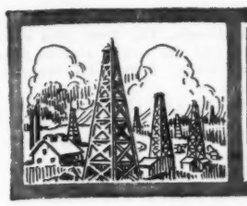
OKLAHOMA (Group 3)—	Nov. 4		Oct. 28		Oct. 21	
100 vis., 2 color, 20-25 cold test	.06	.06¼	.06	.06¼	.06	.06¼
100 vis., 3 color, 20-25 cold test	.05¾	.06	.05¾	.06	.05¾	.06
150 vis., 3 color, 20-25 cold test	.07		.07		.07	
150 vis., 4 color, 20-25 cold test	.06½		.06½		.06½	
180 vis., 3 color, 23-28 cold test	.08½		.08½		.08½	
180 vis., 4 color, 23-28 cold test	.08		.08		.08	
180 vis., 5 color, 23-28 cold test	.07¼	.07½	.07¼	.07½	.07¼	.07½
200 vis., 3 color, 23-28 cold test	.09¾	.10	.09¾	.10	.09¾	.10
200 vis., 4 color, 23-28 cold test	.09½		.09½		.09½	
200 vis., 5 color, 23-28 cold test	.09		.09		.09	
240 vis., 3 color, 25-30 cold test	.13¼	.13½	.13¼	.13½	.13¼	.13½
240 vis., 4 color, 25-30 cold test	.12¼	.12½	.12¼	.12½	.12¼	.12½
240 vis., 5 color, 25-30 cold test	.11¼	.11½	.11¼	.11½	.11¼	.11½
280 vis., 3 color, 25-30 cold test	.15½		.15½		.15½	
280 vis., 4 color, 25-30 cold test	.14½		.14½		.14½	
280 vis., 5 color, 25-30 cold test	.13½		.13½		.13½	
Cylinder Stocks:						
600, steam refined, light green	.07	.08	.08	.10	.08	.10
600, steam refined, dark green	.04½	.05½	.05	.06	.05	.06
190-200 vis., D color, Bright Stocks	.28		.28		.28	
150-160 vis., D color, Bright Stocks	.21	.22	.22	.23	.22	.23
*150-160 vis., D color, Bright Stocks	.21		.21	.22	.21	.22
150-160 vis., E color, Bright Stocks	.19	.20	.20	.22	.20	.22
Waxes:						
124-126 White Crude Scale Wax	.02	.02⅛	.02	.02⅛	.02	.02⅛

*High cold test. All bright stock prices are for domestic movement.

PENNSYLVANIA—						
34 Neutral	.05½	.06½	.05½	.06½	.05½	.06½
34 Sundebloom	.05½		.05½		.05½	
36 Miners' Neutral	.05¾		.05¾		.05¾	
150, 3 color	.11	.12½	.11	.12½	.11¼	.12¾
180, 3 color	.15½	.16½	.15½	.16½	.16	.17
200, 3 color	.17	.17½	.17	.17½	.17½	.18
220, 3 color	.21	.22	.21	.22	.21	.22
600, steam refined	.10½	.11½	.11	.12	11	.12
635, steam refined	.17	.18	.17	.18	.17	.18
650, steam refined	.15½	.16½	.15½	.16½	.15½	.16½
600, Pennsylvania Flash	.16	.17	.17	.18	.17	.18
630, Pennsylvania Flash	.24	.25	.24½	.25½	24½	.25½
600, E filtered	.15	.17	.15	.17	.15	.17
600, D filtered	.19	.21	.19	.21	.19	.21
Pennsylvania Bright Stocks	.22	.23	.22	.23	.22	.23
*122-124 White Crude Scale Wax	.02¼		.02¼		.02¼	
124-126 White Crude Scale Wax	.02¼		.02¼		.02¼	

*At New York.

GULF COAST (South Texas)—						
100 vis., 2-2½ color, pale oil	.06¼	.06½	.06¼	.06½	.06½	.06¾
200 vis., 3 color, pale oil	.08½	.09	.08½	.09	.08½	.09
300 vis., 3 color, pale oil	.09¾	.10	.09¾	.10	.09¾	.10
500 vis., 3½ color, pale oil	.11	.11¼	.11	.11¼	.11	.11¼
750 vis., 3½ color, pale oil	.12½	.12¾	.12½	.21¾	.12½	.12¾
1,200 vis., 3½ color, pale oil	.15	.15¼	.15	.15¼	.15	.15¼
2,000 vis., 4 color, pale oil	.16	.16½	.16	.16½	.16	.16½
200 vis., 5-6 color, red oil	.07¾	.08	.07¾	.08	.07¾	.08
300 vis., 5-6 color, red oil	.09	.09¼	.09	.09¼	.09	.09¼
500 vis., 5-6 color, red oil	.10¼	.10½	.10¼	.10½	.10¼	.10½
750 vis., 5-6 color, red oil	.11¾	.12	.11¾	.12	.11¾	.12
1,200 vis., 5-6 color, red oil	.14	.14½	.14	.14½	.14	.14½



REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

2,000 vis., 6 plus color, red oil	.16	.16¼	.16	.16¼	.16	.16¼
CALIFORNIA—						
130 vis., 2½-3 color	.09	.09½	.09	.09½	.09	.09½
200 vis., 2½-3 color	.10	.10¾	.10	.10¾	.10	.10¾
300 vis., 3-3½ color	.10¾	.11½	.10¾	.11½	.10¾	.11½
350 vis., 3½-4 color	.11½	.11¾	.11½	.11¾	.11½	.11¾
400 vis., 3½-4 color	.12¼	.12¾	.12¼	.12¾	.12¼	.12¾
Red Neutral:						
200 vis., 4½-5 color	.10	.10¾	.10	.10¾	.10	.10¾
300 vis., 5-6 color	.10¾	.11¼	.10¾	.11½	.10¾	.11¼
400 vis., 5-6 color	.12	.12½	.12	.12½	.12	.12½
500 vis., 4½-5 color	.13	.13½	.13	.13½	.13	.13½
500 vis., 5-6½ color	.13	.13¾	.13	.13¾	.13	.13½
600 vis., 6½ plus color	.13½	.14½	.13½	.14½	.13½	.14½

Note—Bright stocks are not manufactured commercially on the Pacific Coast.

NEW YORK (BAYONNE) REFINERY PRICES

	Nov. 4		Oct. 28		Oct. 21	
Gasoline, U. S. Motor, 58-60, 437 e.p.	.07½	.08¼	.07½	.08¼	.07¾	
Kerosene, water white, 41-43	.06¾		.06¾		.06¾	
*Fuel Oil, Bunker "C," 41-43	1.05		1.05		1.05	
†Fuel Oil Diesel, 28-30, per bbl.	2.00		2.00		2.00	
Gas Oil, 28 gravity plus	.04¾	.05¼	.04¾	.05¼	.04¾	.05¼
25 pale Paraffin Oil, tank car	.10¼		.10¼		.10¼	
28 pale Paraffin Oil, tank car	.07¼		.07¼		.07¼	
280 red Paraffin Oil, tank car	.12½		.12½		.12½	
250 red Paraffin Oil, tank car	.11½		.11½		.11½	
225 red Paraffin Oil, tank car	.10		.10		.10	
200 red Paraffin Oil, tank car	.09¼		.09¼		.09¼	
Domestic heating oil, min. 32 grav., tank cr	.04½		.04½		.04¾	
Refined Wax:						
120-122 a.m.p., per lb.	.02⅞		.02⅞		.03	
125-127 a.m.p., per lb.	.03⅛		.03⅛		.03¼	
130-132 a.m.p., per lb.	.03½		.03½		.03⅝	
133-135 a.m.p., per lb.	.04¼		.04¼		.04⅜	
135-137 a.m.p., per lb.	.04½		.04½		.046	
Petrolatum in barrels, in carload lots, per pound:						
Dark Green	.01¾		.01¾		.01¾	
Amber	.03¼		.03¼		.03¼	
Extra Amber	.03⅜		.03⅜		.03⅜	
Cream	.06		.06		.06	
Lily White	.06¾		.06¾		.06¾	
Snow White	.08		.08		.08	

*Lighterage 5 cents a barrel extra. †Lighterage 6.5 cents per barrel.

NEW YORK (BAYONNE) EXPORT PRICES

	Nov. 4	Oct. 28	Oct. 21
600, steam refined cylinder stocks, in bbls.	.17	.17	.17
635, steam refined	.19	.19	.19
650, steam refined	.23	.23	.23
600, Pennsylvania Flash	.25	.25	.26
630, Pennsylvania Flash	.29	.29	.29
600, Warren E	.24	.24	.24
608, Oil City E	.23	.23	.23
Light 140-150 Bright Stocks	.29	.29	.29
Dark 140-150 Bright Stocks	.27	.27	.27

LOS ANGELES EXPORT PRICES

	Nov. 4		Oct. 28		Oct. 21	
Kerosene, water white	.04¾	.06¼	.04¾	.06¼	.04¾	.06¼
*U. S. Motor Gasoline, 53-55, 437 e.p.	.06½	.07½	.06½	.07½	.06½	.07½
*60-62,400 endpoint gasoline	.08	.09¼	.08¼	.09½	.08¼	.09½

*Prices on coastwise shipments.

CRUDE OIL PRICES

OKLAHOMA, KANSAS, NORTH AND EAST CENTRAL TEXAS

Corsicana heavy (Oct. 28) ..... $ 75
Other fields ..... See gravity table

TEXAS PANHANDLE

Gray County, Wheeler County and Carson-Hutchinson Counties—See gravity table.

WEST TEXAS

Iatan* ..... Same as North Texas
Crane-Upton-Crockett, Howard and Glasscock, Mitchell and Ector ..... See gravity table, Column 3
Pecos and Winkler ..... See gravity table, Column 9
Chalk† (April 10, 1930) ..... $ .75

*Includes Westbrook Field. †Posted by Humble Oil & Refining Co.

ARKANSAS-NORTH LOUISIANA

Smackover (all grades) (Oct. 30, 1930) $ .70
Carterville, Sarepta and Cotton Valley, below 36 gravity (see gravity table).
Bellevue (Oct. 30, 1930) 1.00
Urania (Oct. 30, 1930) ..... .75
Calion, heavy (Oct. 30, 1930) ..... .70
East El Dorado (Oct. 30, 1930) ..... .70
Other fields ..... See gravity table

Note—Smackover and Bellevue posted by Standard Oil Co. of Louisiana and Magnolia Petroleum Co.; Urania posted by Louisiana Oil Refining Corp.; East El Dorado posted by Gulf Refining Co. and Magnolia Petroleum Co. Calion posted by Gulf Refining Co.

GULF COAST

Grade A (Oct. 28, 1930)* $1.00
Grade B, 25° and upward .. See gravity table
Jennings, La. (Oct. 30, 1930)† ..... .80
Refugio (light) ..... Same as Grade B
Refugio (heavy) (Oct. 28, 1930)* ..... .75
Sorrento (April 10, 1930)‡ 1.10
Markham (April 10, 1930)‖ ..... .85
High Island (Oct. 30, 1930)¶ ..... .75

*Humble Oil & Refining Co. ‡Sun Pipe Line Co. §Texas Pipe Line Co. ¶Gulf Pipe Line Co. ‖Humble Oil & Refining Co. and Gulf Coast Pipe Line Co.

ROCKY MOUNTAIN STATES

Ohio Oil Co.-Midwest Refining Co.

Iles (Feb. 15, 1930) ..... $ .87
33 gravity and above ..... .87
Under 33 gravity ..... .65
Dutton Creek (Oct. 28, 1930) 1.01
Rock Creek, Wyo. (Oct. 28, 1930) 1.01
Salt Creek ..... See gravity table
Big Muddy (Oct. 28, 1930) 1.00
Grass Creek, heavy (July 27, 1928) ..... .90
Grass Creek, light (Oct. 28, 1930) 1.25
Mule Creek (May 21, 1929) 1.20
Elk Basin (Oct. 28, 1930) 1.25
Lance Creek (Oct. 28,1930) 1.33
Poison Spider (March 14, 1927) 1.00
Notches (March 14, 1927) ..... .65
Rex Lake (February 22) 1.10
Osage (Oct. 28, 1930) 1.00
Lost Soldier (Oct. 28) ..... .80
Hamilton Dome (March 14, 1927) ..... .85
Greybull (Oct. 28, 1930) 1.25
Torchlight (Oct. 28, 1930) 1.25
Cat Creek (Oct. 28, 1930) 1.25
Pondera (Montana) (Oct. 28, 1930) 1.45
Sunburst (Montana) (Oct. 28, 1930) 1.55
Hogback (Feb. 15, 1930) 1.40
Artesia (New Mexico) (Oct. 28, 1930) ..... .75
Lea County ..... See gravity table

Note—Salt Creek, Osage, Cat Creek, Greybull and Hogback posted by Midwest Refining Co., and the remainder by the Ohio Oil Co. Both companies posted Grass Creek light and Elk Basin. Lost Soldier posted by Producers & Refiners Corp.

(Continued on Page 128)

CRUDE OIL GRAVITY TABLE

Gravity—	1 Oklahoma-Kansas N. C. Texas	2 North La.-Ark.	3 Crane, Upton, Ector, Crockett, Howard, Glasscock, Mitchell, (West Texas) Lea, N. M.	4 Wheeler County (Texas Panhandle)	5 Gray County (Texas Panhandle)	6 Carson and Hutchinson (Texas Panhandle)	7 Salt Creek, Wyo.	8 Stephens, Ark.	9 Pecos-Winkler (West Texas)	10 Grade B Gulf Coast and Refugio Texas
Below 25	....	....	.50	....	....	....	....	....	.55	.75
25 to 25.9	....	....	.52	....	....	....	....	....	.57	.92
26 to 26.9	....	....	.54	....	....	....	....	....	.59	.94
27 to 27.9	....	....	.56	....	....	....	....	....	.61	.96
28 to 28.9	....	....	.58	....	....	....	....	....	.63	.98
Below 29	.65	.65	....	....	.50	.45	....	.54	....	....
29 to 29.9	.69	.69	.60	....	.54	.49	.69	.58	.65	1.00
30 to 30.9	.73	.73	.62	....	.58	.53	.73	.62	.67	1.02
31 to 31.9	.77	.77	.64	....	.62	.57	.77	.66	.69	1.04
32 to 32.9	.81	.81	.66	....	.66	.61	.81	.70	.71	1.06
33 to 33.9	.85	.85	.68	....	.70	.65	.85	....	.73	1.08
34 to 34.9	.89	.89	.70	....	.74	.69	.89	....	.75	1.10
35 to 35.9	.92	.92	.72	....	.77	.72	.92	....	.77	1.12
36 to 36.9	.95	.95	.74	....	.80	.75	.95	....	.79	1.14
37 to 37.9	.98	.98	....	....	.83	.78	.98	....	....	1.16
38 to 38.9	1.01	1.01	....	....	.86	.81	....	....	....	1.18
39 to 39.9	1.04	1.04	....	....	.89	.84	....	....	....	1.20
40 and above	1.07	1.07	....	....	.92	.87	....	....	....	1.22

Column 1—Carter Oil Co. posted above prices for Oklahoma and Kansas on October 28. Humble Oil & Refining Co. posted same for North Central Texas on October 28. Magnolia Petroleum Co. posted same for Kansas, Oklahoma, and North Central Texas on October 27 from 29 degrees upward, but posted below 26 degrees at 53 cents; 26-26.9 degrees at 57 cents; 27-27.9 degrees at 61 cents; 28-28.9 degrees at 65 cents. Stanolind Crude Oil Purchasing Co. on November 1 adopted the schedule as listed in table; Prairie Oil & Gas Co. adopted the same on November 1, other companies following. North Central Texas, for the purpose of this table, includes North Texas, Ranger district, Mexia, Powell, Richland, Wortham, Van, Lytton Springs, Currie, Nocona, Moran and Corsicana (light oil).

Column 2—The Texas Company posted above prices on Caddo and Red River crude, up to 39-39.9 degrees. It also posted 40-40.9 degrees at $1.07; 41-41.9 degrees at $1.10; 42-42.9 degrees at $1.13; 44-44.9 degrees at $1.16, and 44 degrees and above $1.19. Standard Oil Co. posted schedule as listed in table on October 30; Magnolia Petroleum Co. on October 30 posted prices as listed, starting at 29 degrees, but posted below 26 degrees, 53 cents; 26-26.9 degrees, 57 cents; 27-27.9 degrees, 61 cents; 28-28.9 degrees, 65 cents. Louisiana Oil Refining Co. adopted Standard of Louisiana prices on October 30. North Louisiana and Arkansas fields included in table are Caddo, Bull Bayou, Crichton, De Soto, Haynesville, Homer, Cotton Valley, Sarepta-Carterville, El Dorado and Rainbow.

Column 3—Posted by Humble Oil & Refining Co. on October 28.

Column 4—Companies quit posting but crude takes Hutchinson-Carson prices.

Column 5—Humble Oil & Refining Co.

Column 6—Humble Oil & Refining Co., Magnolia and Prairie, October 28.

Column 7—Midwest Refining Co. on October 28. All crude over 37 degrees 98 cents.

Column 8—Louisiana Oil & Refining Co. and Atlantic Oil Producing Co., October 30.

Column 9—Humble Oil & Refining Co., October 28.

Column 10—Humble Oil & Refining Co., October 28. On October 30, Gulf Refining Co. posted as follows for Grade B: Below 25 degrees, 69 cents; 25-25.9 degrees, 71 cents, with a 2-cent differential for each degree upward to and including 40 degrees and above $1.01.

CALIFORNIA CRUDE OIL PRICES

Standard Oil Co. (effective September 15, 1930), Union Oil Co. (effective September 15, 1930)

Gravity—	1 Long Beach, Seal Beach, Alamitos Hts., Huntington Beach, Inglewood, Torrance, Richfield, Olinda, Brea Canyon	2 Whittier, La Habra, Coyote Hills	3 Midway-Sunset, Elk Hills, Lost Hills, Belridge, Buena Vista Hills	4 Montebello	5 Santa Fe Springs	6 Santa Maria, Coalinga	7 Wheeler Ridge	8 Orcutt, Ventura, Rincon	9 Ventura Avenue	10 Elwood Terrace	11 Athens, Rosecrans, Domingues
14 to 14.9	.70	.70	.55	.70	....	.55	.55	.55	.70	....	....
15 to 15.9	.70	.70	.55	.70	....	.55	.55	.55	.70	....	....
16 to 16.9	.70	.70	.55	.70	....	.55	.55	.55	.70	....	....
17 to 17.9	.70	.70	.55	.70	....	.55	.55	.55	.70	....	....
18 to 18.9	.76	.76	.62	.71	....	.62	.62	.65	.76	....	....
19 to 19.9	.82	.82	.70	.77	....	.70	.70	.70	.82	....	....
20 to 20.9	.88	.87	.78	.83	....	.78	.78	.78	.88	....	....
21 to 21.9	.94	.93	.86	.90	.92	.86	.86	.90	.91	....	....
22 to 22.9	1.00	.98	.94	.97	.95	.94	.94	.95	.94	....	....
23 to 23.9	1.07	1.04	1.02	1.05	1.01	1.02	1.02	1.02	1.00	....	....
24 to 24.9	1.12	1.08	1.06	1.08	1.05	1.04	1.04	1.08	1.05	....	1.12
25 to 25.9	1.17	1.12	1.10	1.11	1.09	1.06	1.06	1.11	1.10	....	1.17
26 to 26.9	1.22	1.16	1.14	1.15	1.13	1.08	1.08	1.15	1.15	....	1.22
27 to 27.9	1.26	1.21	1.18	1.19	1.18	1.11	1.10	....	1.19	....	1.27
28 to 28.9	1.30	1.25	1.23	1.23	1.23	1.15	....	....	1.23	....	1.32
29 to 29.9	1.34	1.29	1.29	1.26	1.28	1.19	....	....	1.27	....	1.37
30 to 30.9	1.38	1.33	1.35	1.29	1.33	1.23	....	....	1.31	....	1.42
31 to 31.9	1.43	....	1.40	....	1.38	1.27	....	....	1.36	....	1.47
32 to 32.9	1.48	....	1.47	....	1.43	1.31	....	....	1.41	....	1.52
33 to 33.9	....	....	1.53	....	1.48	1.35	....	....	1.47	....	1.57
34 to 34.9	....	....	1.59	....	1.53	1.39	....	....	1.53	1.32	1.62
35 to 35.9	....	....	1.65	....	1.58	1.43	....	....	1.59	1.39	1.66
36 to 36.9	....	....	....	....	1.63	....	....	....	....	1.46	1.72
37 to 37.9	....	....	....	....	1.68	....	....	....	....	1.53	1.78
38 to 38.9	....	....	....	....	1.73	....	....	....	....	1.60	1.84
39 to 39.9	....	....	....	....	1.78	....	....	....	....	1.66	1.90
40 to 40.9	....	....	....	....	....	....	....	....	....	1.72	1.96
41 to 41.9	....	....	....	....	....	....	....	....	....	1.78	2.02
42 to 42.9	....	....	....	....	....	....	....	....	....	1.84	2.08

Kern River, Newhall-McKittrick, Mount Poso and Round Mountain, 11 to 13.9 gravity, 50 cents; 14 gravity and above, 55 cents, effective March 11. On March 11 the Union Oil Co. posted Midway-Sunset, Elk Hills, Buena Vista, Lost Hills and Coalinga crude as follows: 11 to 13.9 gravity at 50 cents. Fruitvale, posted by General Petroleum Co., 11-13.9, 50 cents; 14 gravity and above, 55 cents.

Column 1—Signal Hill, Seal Beach, Huntington Beach and Alamitos Heights crude, 14 to 32.9 gravity, inclusive; Richfield, Olinda-Brea and Fullerton, 14 to 30.9 gravity; Torrance and Inglewood, 14 to 28.9 gravity.

Column 2—Whittier crude, 14 to 32.9 gravity; Coyote Hills, 14 to 30.9 gravity.

Column 3—Kern River, Newhall and McKittrick, 11 to 19.9 gravity; Midway-Sunset, Buena Vista and Elk Hills, 11 to 33.9 gravity; Lost Hills, 11 to 34.9 gravity; oil below 14 gravity posted at 50 cents.

(Continued on Page 132)

TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns Nov. 4

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO. (INDIANA)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Chicago†	16.00	17.0	3.0	11.0
Decatur, Ill.	16.4	16.4	3.0	11.0
E. St. Louis	15.7	14.7	3.0	10.2
Joliet	16.4	17.4	3.0	11.0
Peoria	15.0	14.0	3.0	11.0
Quincy	16.2	17.2	3.0	10.8
Davenport, Ia.	16.5	16.5	3.0	11.3
Des Moines	15.5	15.5	3.0	11.3
Keokuk	16.5	17.5	3.0	11.3
Sioux City	16.1	14.9	3.0	10.9
Duluth, Minn.	17.5	16.4	3.0	11.9
Mankato	14.0	14.0	3.0	11.7
Minneapolis	17.0	17.0	3.0	11.9
La Cross, Wis.	16.2	17.2	2.0	12.0
Milwaukee	15.1	15.0	2.0	10.9
Madison	15.3	15.3	2.0	11.1
Detroit, Mich.	16.8	12.9	3.0	12.7
Grand Rapids	15.7	16.7	3.0	12.6
Saginaw	14.3	16.9	3.0	12.8
Evansville, Ind.	17.1	18.1	4.0	11.9
Indianapolis	16.9	17 9	4.0	12.1
South Bend	17.4	18.4	4.0	12.3
Fargo, N. D.	18.9	19.9	3.0	13.9
Huron, S. D.	17.5	17.5	4.0	12.7
Sioux Falls	17.8	14.9	4.0	12.4
K. C., Mo.	14.9	15 9	3.0	9.6
Springfield*	15.9	16.9	3.0	10.5
St. Louis*	12.9	13.9	2.5	10.3
St. Joseph	15.5	11.9	2.0	10.1
Wichita, Kans.	14.8	13.8	3.0	9.8
Bartlesville, Ok.	15.5	13.5	4.0	9.5

*State tax 2 cents; remainder city tax.

†Effective June 3, discounts on Q.D.A. in Chicago district 4 cents off service station price on purchases of 500 gallons or more per month and 5 cents on purchases of 1,000 gallons or more per month.

Effective August 5, the following quantity discounts from the service station prices are allowed on monthly sales of gasoline; 500 gallons or more, 3 cents; 75,000 gallons or more, 4½ cents. Discounts are allowed each month and they are not cumulative. Delivery tickets showing date and quantity delivered must be sent to the seller before the tenth of the month to secure the discount on the previous month's purchases.

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Denver, Colo.	16.0	19.0	4.0	13.5
Pueblo	17.0	20.0	4.0	13.5
Grand Junction	20.5	23.5	4.0	17.0
Casper, Wyo.	17.0	20.0	4.0	13.0
Cheyenne	18.0	21.0	4.0	13.5
Butte, Mont.	19.0	22.0	5.0	18.0
Billings	20.0	23.0	5.0	16 5
Great Falls	20.0	23.0	5.0	18.0
Helena	22.5	25.5	5.0	18.0
Salt Lake, Utah	20.0	23.0	3.5	17.0
Albu'que, N. M.	16.0	18.0	5.0	15.0
Boise, Idaho	23.5	26.5	5.0	19.0
Twin Falls	23.5	27.5	5.0	19.0

SOUTHWESTERN DISTRICT

Magnolia Petroleum Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Dallas, Tex.	14.0	17.0	4.0	11.0
Fort Worth	14.0	17.0	4.0	10.0
Houston	15.0	19.0	4.0	11.0
San Antonio	13.0	17.0	4.0	11.0
El Paso	16.0	20.0	4.0	13.0
Texarkana	17.0	17.0	4.0	12.0
Muskogee*	15.0	18.0	4.0	9 0
Okla. City*	13.0	16.0	4.0	10.0
Tulsa	14.0	18.0	4.0	10.0
Ft. Smith, Ark.	14.5	15 5	5.0	12.0
Little Rock	13.0	14.0	5.0	12.0

*Gasoline tank wagon price to dealers 1 cent under posted tank wagon.

One-cent rebate made from posted station prices to cash purchasers in Louisiana, Arkansas and Tennessee.

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Omaha	17.25	18.25	4.0	11.25
McCook	18.75	20.75	4.0	12.75
Norfolk	17.25	17.25	4.0	11.75
N. Platte	18.75	20.75	4.0	12.50
Scott's Bluff	17.00	17.00	4.0	12.25

OHIO

Standard Oil Co. (Ohio)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Ohio points*	18.0	19.0	4.0	†15.0

*Dealers and commercial accounts 2 cents under tank wagon.

†Service station price 16 cents.

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
N. Orleans, La.*	13.5	14.5	5.0	12.0
Baton Rouge	14.5	15.5	4.0	13.0
Alexandria†	15 5	16.5	5.0	13.0
Lafayette*	15.5	16.5	5.0	13.0
Lake Charles*	15.5	16.5	5.0	13.0
Shreveport	14.5	15.5	4.0	12.0
Knoxv'lle, Tenn.	19 0	20.0	5.0	15 0
Memphis	17.0	18.0	5.0	12.5
Chattanooga	18.5	19 5	5.0	13.0
Nashville	18.0	19 0	5 0	15 0
Bristol	19 0	20.0	5.0	14 0
Lt. Rock, Ark.	18.0	19.0	5.0	12.0

*Includes city tax of 1 cent. Louisiana kerosene prices include 1-cent state tax. New Orleans kerosene price also includes 1-cent city tax.

†Gasoline price at Alexandria includes 1-cent tax in parish of Rapides.

One cent discount allowed off station price on all cash purchases. All other station discounts withdrawn October 2, 1930.

Two-cent discount off gasoline tank wagon price to dealers and commercial accounts.

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Atl'tic City, N.J.	14.5	15.5	2.0	11.5
Newark	13.5	14.5	2.0	10.5
Annapolis, Md.	16.0	17.0	4.0	11.0
Baltimore	15.2	16.2	4.0	9.5
Cumberland	17.0	18.0	4.0	13.0
Wash'gton, D.C.	13.7	14.7	2.0	10.7
Danville, Va.	17.8	18.8	5.0	11.8
Norfolk	16.3	17.3	5.0	10.0
Petersburg	17.3	18.3	5.0	11.3
Roanoke	18.0	18.0	5.0	12.0
Richmond	16.7	17.7	5.0	10.7
Charles'n, W.Va.	16.5	17.5	4.0	11.5
Keyser	17.1	18.1	4.0	13.0
Parkersburg	15.2	16.2	4.0	10.2
Wheeling	16.4	17.4	4.0	11.4
Charlotte, N. C.	18.3	19.3	5.0	12.3
Hickory	18.6	19.6	5.0	13.6
Mt. Airy	18.5	19.5	5.0	12.5
Salisbury	18.5	19.5	5.0	12.5
Charleston, S. C.	17.3	18.3	6.0	10.3
Columbia	19.2	20.3	6.0	12.3

A 2-cent per gallon discount off the gasoline tank wagon price is offered to dealers.

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Atlanta, Ga.	20.0	22 0	6.0	14.5
Augusta	20.0	22 0	6.0	15 5
Macon	20.0	22.0	6.0	13 0
Savannah	20.0	22.0	6.0	14.0
Birm'ham, Ala.	18.0	20.0	5.0	14.5
Mobile	17.0	19 0	4.0	11.5
Montgomery	18 0	20.0	4.0	15 0
Clarks'le, Miss.	18.0	20.0	5.0	12.5
Jackson	15.0	17.0	5.0	13.0
Natchez	18.0	20.0	5.0	13.0
Gulfport	19 0	19.0	5.0	13 0
Vicksburg	18 0	20 0	5.0	13 0
Jack'ville, Fla.	17.0	19.0	6 0	14.0
Miami	19.0	21.0	6.0	14.0
Pensacola	20.0	21.0	6.0	13.5
Tampa	18 0	20 0	5 0	13.0
Lexington, Ky.	17 0	18 0	5.0	14 5
Covington	18.0	20 0	5.0	14.5
Louisville	16.0	18.0	5.0	12 0
Ashland	18.0	20.0	5.0	15.0
Catlettsburg	18.0	20.0	5.0	15.0

In addition to the state tax of 4 cents on gasoline, Montgomery has city tax of 1 cent on gasoline and one-half on kerosene. Kerosene prices in Georgia include 1-cent tax. In Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene and one-fourth cent on gasoline. To Pensacola, Montgomery, Birmingham and Mobile state taxes add 1-cent levy tax. To Gulfport state tax add privilege tax of 2 cents.

Effective April 2, price to dealers 2 cents under posted tank wagon price.

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Albany, N. Y.	15.6	17.6	2.0	15.6
New York*	14.3	16.3	2.0	14 3
Buffalo	17.8	19 8	2.0	14.8
Rochester	18.0	20.0	2.0	14.0
Syracuse	18.3	20.3	2.0	14.3
Boston, Mass.	14.5	16.5	2.0	13.5
Augusta, Me.	19.8	21.8	4.0	14.8
Manch't'r, N. H.	19.4	21.4	4.0	14.0
Burlington, Vt.	19.6	21.6	4.0	15.3

*Prices in steel barrels.

PENNSYLVANIA—DELAWARE AND PART NEW ENGLAND

The Atlantic Refining Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Pittsburgh, Pa.	15.0	*20.0	...	12.0
Philadelphia	15.0	*20.0	...	12.0
Scranton	15.0	*20.0	...	12.0
Allentown	15.0	*20.0	...	12.0
Altoona	15.0	*20.0	...	12.0
Erie	15.0	*18.0	...	12.0
Dover, Del.	18.0	20.0	3.0	12 0
Wilmington	18.0	20.0	3.0	12.0
Springf'd, Mass.	17.5	19.5	3.0	10.0
Worcester	17.3	19.3	3.0	10.0
Boston	16.5	18.5	2.0	10.0
Providence, R.I.	13.7	14.7	2.0	10 0
Hartford, Conn.	17.5	19.5	2.0	12.5
New Haven	17.6	19.6	2.0	12.6

*Includes tax of 3 cents. Pennsylvania tax is collected by the dealer and paid by him direct to the State. The Atlantic Refining Co. recognizes a 2-cent per gallon discount on gasoline from its posted tank wagon markets on sales to dealers for purposes of resale. The Atlantic Refining Co. also recognizes a maximum discount of 2 cents per gallon on gasoline to commercial accounts under contract for one year.

PACIFIC COAST TERRITORY

Standard Oil Co. (California)

	Gasoline			Kero.
	Wh'ls'le Price	Retail Price	Incl'ds tax	tank wagon
Fresno	23.0	21.0	3.0	17.0
San Francisco	23.0	21.0	3.0	15.5
Los Angeles	22.5	20.5	3.0	15.5
Reno, Nev.	28.0	26 0	4.0	19.0
Portland, Ore.	24.5	22.5	4.0	16.5
Seattle, Wash.	23.5	21.5	3.0	16.5
Tacoma	23.5	21.5	3.0	16.5
Spokane	27.5	25.0	3.0	20.5
Phoenix, Ariz.	19.5	22.5	4.0	20.0

Above prices are at company's plant or depots as company does not operate stations. A 6-cent per gallon discount is given dealers and customers taking tank wagon lots except in Phoenix where the discount is 1 cent.

STANGLIND FURNACE OIL IN CHICAGO

Less than 100 gallons	9.0
100 to 349 gallons	8.0
350 gallons or more	7.5

Note—Outside Chicago furnace oil discount of 1 cent per gallon is given on deliveries of 100 to 349 gallons and 1½ cents on deliveries of 350 gallons or more.

NAPHTHA

	Tank wagon	Tank car
Oleum spirits	14.7	10.0
V. M. & P. naphtha	16.7	12.0
Cleaner's naphtha	17.0	14.9
Stanisol	17.0	15.4

Tank wagon prices f.o.b. Chicago; tank car prices f.o.b. Whiting.

TANK WAGON CHANGES

Standard Oil Co. (Kentucky) made sweeping changes October 25. It reduced tank wagon and service station prices 2 cents in Augusta and Macon, Ga.; Mobile and Montgomery, Ala.; and Lexington and Louisville, Ky. It reduced them 1 cent in Atlanta, Ga.; Clarksdale, Natchez, Gulfport and Vicksburg, Miss.; and Covington, Ky. It reduced the tank wagon price from 19 cents to 17 in Jacksonville, Fla., and from 20 to 18 in Tampa. The tank wagon price of kerosene was reduced from 13.5 cents to 12 in Louisville, Ky.

Magnolia Petroleum Co. reduced the tank wagon and service station prices from 14 and 17 cents to 13 and 16 in Oklahoma City on October 25 and from 15 to 16 cents in Little Rock, Ark., to 13 and 14 on October 22. It reduced the tank wagon price of kerosene from 12 cents to 11 in Dallas, Tex., on October 22 and from 11 cents to 10 in Fort Worth, Tex., on October 27.

Standard Oil Co. of Louisiana on October 20 advanced both tank wagon and service station prices in Tennessee as follows: Knoxville, 4 cents, to 15 and 20; Memphis, 4 cents, to 17 and 18; Chattanooga, 1½ cents, to 18½ and 19½; Nashville, 4 cents, to 18 and 19.

Standard Oil Co. (Indiana) on November 4 reduced the tank wagon price of gasoline in Peoria, Ill., from 16.4 cents to 15 cents, and the service station price in Detroit, Mich., from 14.3 cents to 12.9 cents.

Standard Oil Co. (New Jersey) on November 4 reduced the service station price of gasoline 1 cent throughout its entire territory.

CRUDE PRICE CHANGES

The crude oil price changes affecting nearly all the fields east of California commencing on October 22 and ending October 28, detailed on Page 29 of last week's Oil and Gas Journal were followed up on October 29, November 1 and November 3 by other market reductions. By the close of this report only a very few scattered pools were exempt from a price change, these being small pools in the Rocky Mountain areas.

The Gulf Pipe Line Co. on October 30 following the posting of new prices in the Gulf Coast by the Humble Oil & Refining Co., on October 28, posted prices in the same area which were from 6 to 22 cents under the Humble's prices.

The Stanolind Crude Oil Purchasing Co. effective in the Kansas, Oklahoma

(Continued on Page 135)

CRUDE OIL PRICES

(Continued from Page 127)

SOUTH CENTRAL AND SOUTHWEST TEXAS

Darst Creek (Oct. 28, 1930)*	$ .90
Luling (Oct. 28)	.75
Mirando (Oct. 28, 1930)*	.75
Pettus (Oct. 28, 1930)*	1.19
Salt Flat (Oct. 28, 1930)*	.90
Thrall‡	...
Lytton Springs (Lockhart)	See gravity table
Somerset (April 10, 1930):	
Below 33 gravity	$1.15
33 to 33.9 gravity	1.17
34 to 34.9 gravity	1.19
35 to 35.9 gravity	1.21
36 to 36.9 gravity	1.23
37 to 37.9 gravity	1.25
38 gravity and above	1.27

*Posted by Humble Oil & Refining Co. and Magnolia Petroleum Co. †Magnolia Petroleum Co., Humble Oil & Refining Co., Crown Central Pipe Line Co. ‡Thrall prices same as North Central Texas less 19¼ cents per cwt. freight. §Humble Oil & Refining Co.

EASTERN STATES

Joseph Seep Purchasing Agency

(Effect ve Nov. 1, 1930)

Seep Purchasing Agency withdrew from Bradford and Allegany Fields as a purchaser on May 16.

Penna Grade Oil in National Transit Lines (Pennsylvania)	$2.00
Penna Grade Oil in Southwest Pennsylvania Lines (Pennsylvania)	1.95
Penna Grade Oil in Eureka Pipe Line Lines (West Virginia)	1.85
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio) (Sept. 14, 1930)	1.60
Corning Grade Oil in Buckeye Pipe Line Co.'s Lines (Oct. 28, 1930)	1.30
Somerset Oil in Eureka Pipe Line Lines (Kentucky) (August 1, 1930)	1.14
Ragland Grade Oil in Cumberland Pipe Lines (Kentucky)	1.10
Wayne District Oil in Cumberland Pipe Lines	1.17

Tide Water Pipe Co.

Bradford district (Nov. 1, 1930)	$2.30
Allegany district (Nov. 1, 1930)	2.30

Pure Oil Co.

Cabin Creek, W. Va. (Nov. 1, 1930)	2.00
Kelly Creek, W. Va. (Nov. 1, 1930)	2.00
Bradford Hollow, W. Va. (Nov. 1, 1930)	2.00

MIDDLE WESTERN STATES

Ohio Oil Co.

(Effective Oct. 28, 1930)

Lima	$1.10
Wooster	1.40
Illinois	1.30
Indiana	.87
Princeton	1.30
Plymouth	.88
Western Kentucky	1.15
Midland, Mich.*	1.10
Dundee, Mich. (Oct. 28)	.....Same as Mid-Continent gravity scale
Upper and Lower Traverse Sands, Mich. (Oct. 28)	.....Same as Mid-Continent gravity scale
Cumberland, Clay, Barren, Clinton and Monroe Counties, Kentucky (March 15)‡	1.50
Oil City, Ky.§	1.10
Oil Springs (Canada) (Oct. 28)¶	1.57
Petrolia (Canada) (Oct. 28)¶	1.50

*Posted by Pure Oil Co. †Posted by Sun Oil Co. ‡Posted by Paragon Development Co. §Posted by Stoll Refining Co. ¶Posted by Imperial Oil Co., Ltd. ‖Posted by Standard of Indiana for boat shipment. Local refiners posted Mid-Continent prices on April 11.

MEXICAN CRUDE

Panuco*	$0.55

*F.o.b. ship, based on September transactions.

MELLOWED A HUNDRED MILLION YEARS

At last . . . a pure PENNSYLVANIA grade motor oil for easy starting . . . AND EASY SALES . . . in winter!

Motorists by the thousands saw this startling, striking picture of a prehistoric monster . . . in magazines, newspapers and rotogravures from coast to coast. Then that line *"Mobiline is guaranteed to flow at zero"* caught their eyes. And now they ask for Sinclair Mobiline!

No longer need your Pennsylvania oil customers change to another motor oil for winter driving. The wax that thickens and hardens Pennsylvania oils on cold, wintry days is virtually stripped from Mobiline at as low as 60° F. below zero. This dewaxing process, requiring new oil separators whirling at 15,000 revolutions a minute, takes place in the Sinclair refinery at Wellsville, N. Y. . . . the newest and largest single refinery using Pennsylvania grade crude exclusively.

Here Sinclair Mobiline is refined 100% from Bradford-Allegany crude . . . formed in the Devonian Age, a hundred million years ago . . . the costliest of all Pennsylvania crudes! Here this famous crude is triple-filtered to remove all carbon-forming compounds . . . Mobiline retains its clear greenish color long after other oils have turned black in the crankcase.

Just think it over . . . this striking sales story behind Sinclair Mobiline! You can't beat it! With Sinclair Mobiline this winter you get away from cold weather complaints . . . and get more satisfied, steady customers. Stock up now — winter's here!

Sinclair Refining Company (Inc.), New York, Atlanta, Chicago, Fort Worth, Houston, Kansas City. Sinclair Refining Company of Canada, Ltd., Toronto. Sinclair Refining Company of California, Los Angeles.

SINCLAIR MOBILINE

Reg. U. S. Pat. Off. 1916, Renewed 1925

Pennsylvania MOTOR OIL

Made in the newest, largest single refinery using PENNSYLVANIA grade crude exclusively.

Guaranteed by SINCLAIR REFINING CO. INC. to be 100% pure PENNSYLVANIA GRADE OIL

35¢ *per quart*

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Imperial Distributes Surplus Earnings

Special Division of Accumulated Income From Investments Abroad Over and Above Returns Shareholders Have Already Received

Imperial Oil, Ltd., has declared a special distribution of accumulated revenue from foreign investments of 50 cents per share in addition to the regular quarterly dividend of 12½ cents both payable December 1 in Canadian funds to holders of record November 15. The extra payment, the company announced, is not in a sense a dividend but a division among the share holders of surplus earnings from investments abroad over and above returns share holders have already received. Standard Oil Co. (New Jersey) is credited with owning 18,800,000 of the 26,540,518 outstanding shares of Imperial. Thus the distribution to the New Jersey company from Imperial totals $9,400,000, equivalent to 37 cents per share on the 25,418,968 shares of Jersey stock outstanding at the close of 1929.

Continental Oil

Report of Continental Oil Co. (Delaware) and subsidiaries, for nine months ended September 30, 1930, shows profit of $4,002,794 after interest, depreciation, depletion, franchise taxes, intangible development costs and minority interest, but before federal taxes, comparing with $6,688,046 in first nine months of 1929.

Profit for September quarter amounted to $1,358,974 before federal taxes, comparing with $2,120,518 in preceding quarter and $5,545,939 in third quarter of previous year.

Consolidated income account for nine months ended September 30, 1930, follows: Gross income, $71,103,943; costs and expenses, $52,764,415; operating profit, $18,339,528; other income, $1,561,918; total income, $19,901,446; franchise taxes, $1,215,737; intangible development costs, $3,718,834; depletion and lease amortization, $3,161,931; depreciation, retirements and other amortization, $6,286,077; interest, $1,483,648; minority interest, $32,425; profit before federal taxes, $4,002,794.

Lion Oil Refining

Lion Oil Refining Co. reports for quarter ended September 30, 1930, profit of $227,039 after charges, but before depreciation, depletion and federal taxes, comparing with $334,907 in preceding quarter and $1,050,478 in third quarter of 1929.

Profit for first nine months of 1930 amounted to $891,097 before depreciation, depletion and federal taxes, against $2,310,434 in first nine months of previous year. Capital stock consists of 270,000 no-par shares.

Prairie Pipe Line

Prairie Pipe Line Co. and subsidiary report for nine months ended September 30, 1930, net profit of $14,041,400 after charges and taxes, equivalent to $3.47 a share (par $25) on 4,050,000 shares of stock. This compares with $17,110,000, or $4.22 a share, in first nine months of 1929.

Net profit for September quarter amounted to $3,491,150 after above charges, equal to 86 cents a share comparing with $5,328,250, or $1.31 a share, in preceding quarter and $6,135,000, or $1.51 a share, in third quarter of previous year.

Southern Pipe Line

Southern Pipe Line Co. declared a dividend of $1, payable December 1 to stock of record November 15.

Barnsdall Corp.

Barnsdall Corp. and subsidiaries report for quarter ended September 30, 1930, net income of $1,337,329 after interest, depreciation, depletion, abandoned dry holes and federal taxes, equivalent to 59 cents a share (par $25) on 2,257,635 combined Class A and Class B shares. This compares with $1,946,845 or 86 cents a share on 2,254,725 combined shares in preceding quarter and $1,606,453 or 71 cents a share on 2,256,747 combined shares in third quarter of previous year.

For first nine months of 1930, net income totaled $4,704,769 after above charges, equal to $2.08 a share on 2,257,635 combined shares comparing with $5,721,706 or $2.53 a share on 2,256,747 shares in first nine months of 1929.

Rio Grande Oil

Rio Grande Oil Co. and subsidiaries report for nine months ended September 30, 1930, net profit of $3,110,991 after depreciation, depletion, federal taxes, etc., equivalent to $2.51 a share on 1,236,270 no-par shares of capital stock. This compares with $4,253,906 or $3.50 a share on 1,218,000 shares in first nine months of previous year.

Net profit for quarter ended September 30, was $878,687 after above charges, equal to 71 cents a share on 1,236,270 shares comparing $1,231,544 or $1.01 on 1,218,000 shares in third quarter of 1929.

Union Oil

Statement of Union Oil Co. of California and subsidiaries as of June 30, 1930, shows total assets of $386,835,832, compared with $370,416,269 on December 31, 1929, and surplus $71,838,221, against $73,875,311. Current assets totaled $77,742,057 and current liabilities $8,464,273, as contrasted with $68,798,084 and $9,947,053, respectively, on December 31, 1929.

Amerada Corp.

Amerada corporation reports for quarter ended September 30, 1930, net income including profit from sale of one-half interest Kettleman Hills lease to Union Oil Co. of California, of $3,772,810 after depreciation, depletion, taxes, etc., equivalent to $4.09 a share on 922,075 no-par shares of stock, comparing with $477,645 or 52 cents a share in preceding quarter. In September quarter of 1929 company reported net income, including approximately $1,900,000 received from Dixie Oil Co. as part payment for one-half interest in non-productive leaseholds in Oklahoma and Kansas, of $2,259,185, equal to $2.45 a share. Excluding the $1,900,000 received from Dixie Oil Co., net income for third quarter of 1929 was equal to 39 cents a share.

Net income for nine months ended September 30, 1930, was $4,173,871 after above charges, equal to $4.53 a share. Net income for first nine months of 1929, including $1,900,000 received from Dixie Oil Co., was $2,613,299 or $2.83 a share. Excluding the amount received from Dixie Oil Co. net income for 1929 period was equal to 77 cents.

Twenty Representative Stocks

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange and New York Curb, based on closing quotations for Wednesday, was as follows:

Apr. 9	53.26	July 23	46.06
Apr. 16	52.04	July 30	44.89
Apr. 23	53.39	Aug. 6	45.24
Apr. 30	53.70	Aug. 13	43.53
May 7	50.23	Aug. 20	43.79
May 14	51.67	Aug. 27	42.83
May 21	49.71	Sept. 3	42.71
May 28	50.98	Sept. 10	42.84
June 4	50.94	Sept. 17	42.43
June 11	46.65	Sept. 24	40.62
June 18	41.41	Oct. 1	37.78
June 25	42.37	Oct. 8	35.85
July 2	44.13	Oct. 15	35.21
July 9	44.11	Oct. 22	31.88
July 16	46.42	Oct. 29	32.80

Skelly Oil

Skelly Oil Co. reports for quarter ended September 30, 1930, net profit of $646,522, after interest, depreciation, depletion and Federal taxes, equivalent, after dividend requirements on 6 per cent

(Continued on Page 134)

INDEPENDENT OILS ON NEW YORK CURB

Quotations Compiled by Francis, Bro. & Co., Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

1930 High	1930 Low	Week ended October 29 Sales	Week ended October 29 High	Week ended October 29 Low	Week ended October 29 Close	Stocks—		Outstanding capital	Par value	Div. rate	Last paid	1927 High	1927 Low	1928 High	1928 Low	1929 High	1929 Low
⅝	⅛	1,000	⅛	⅛	⅛	American Consolidated Oilfields		$11,018,000	$5	....	.....	2⅞	.55	1½	.53	72c	⅛
4½	1	700	1⅛	1	1	American Maracaibo	(sh)	700,000	N.P.	....	.....	7½	2¾	9½	3⅛	8⅝	1⅛
1⅜	1	300	1⅛	1⅛	1⅛	Argo Oil	(sh)	683,971	$10	....	.....	2¾	1	4½	2¼	5	1½
21	17	100	17	17	17	British American		1,311,321	N.P.	25cQ*	7- 2-30	40	20½	55	32¾	62	7⅞
2¾	¾	100	1⅛	1⅛	1⅛	Caribbean Syndicate		$131,250	25c	....	.....	28¼	15½	4½	3⅞	4⅞	1
44¼	22¼	17,400	24¾	24¼	24½	Cities Service	(sh)	24,290,359	N.P.	30cA†	9- 1-30	58¾	40½	90⅞	54	68⅛	20
93⅞	88	500	90¾	90⅝	90⅝	Cities Service pfd.	(sh)	1,500,000	N.P.	50cM	9- 1-30	95⅜	87	103½	94½	98¾	84
¾	⅛	1,200	¼	⅛	¼	Colombia Syndicate		$2,000,000	$1	....	.....	3⅞	1⅜	3¼	.76	2	½
5⅞	2⅞	500	2⅞	2⅞	2⅞	Consolidated Royal		$5,000,000	$10	12½cQ	7-25-30	9¾	6⅜	8⅞	6¼	11⅛	2½
7⅝	3⅜	400	4	4	4	Creole Petroleum	(sh)	5,977,873	N.P.	....	.....	14⅞	9½	17½	9½	11¾	5⅝
1	¼	200	½	½	½	Crown Central	(sh)	587,000	N.P.	....	.....	3	.50	3¼	.76	2½	¼
21⅞	6⅛	500	7⅜	7⅜	7⅜	Darby Petroleum (new)		1,019,392	N.P.	50cQ	7-15-30	12	4	33½	3¼	26	6½
11	4½	500	4⅞	4¾	4¾	Derby Oil & Refining	(sh)	500,000	N.P.	....	.....	2½	74	2¼	1	11	2
60	30	100	42	42	42	Derby Oil & Refining pfd.		48,500	N.P.	....	.....	16¾	4	21⅛	7½	44	20¾
166⅞	80⅛	700	84⅛	83	83	Gulf Oil Corp.	(sh)	4,504,921	$25	37½cQ	7- 1-30	118	86¼	165	101⅛	209	115
1¾	¾	1,300	⅞	¾	⅞	Intercontinental Petroleum		$5,682,000	$5	....	.....	2½	.80	3⅜	1	2⅞	⅜
3	1⅛	400	1½	1¼	1¼	Kirby Petroleum	(sh)	750,000	N.P.	....	.....	2¼	1⅛	3	1¼	3⅝	1¼
4⅜	⅞	300	1	⅞	⅞	Leonard Oil & Development		$50,000,000	$25	....	.....	10⅞	5⅛	9⅜	5⅛	6⅛	1
29	9½	1,200	10½	10½	10½	Lion Oil & Refining	(sh)	250,000	N.P.	50cQ	7-28-30	27½	20	43⅞	20	38⅞	18
55⅞	23⅛	1,900	26¼	26	26⅛	Lone Star Gas	(sh)	5,000,000	N.P.	25cQ	6-30-30	59⅜	37	69⅛	48½	67⅞	28
½	⅛	2,700	⅛	⅛	⅛	Magdalena Syndicate	(sh)	850,000	$1	....	.....	2⅞	.80	1⅞	.50	1¼	¼
16	6	100	6	6	6	Margay Oils		160,000	N.P.	....	7-10-30	52	12	48½	32	38½	14
7½	2	600	3	3	3	Mexico-Ohio Oil		.....	...	....	.....	12⅛	5	8	2¾	6⅜	2½
¾	¾	100	⅜	⅜	⅜	Mountain & Gulf		$4,000,000	$1	40cQ	7-15-30	1½	1	1¾	.76	1½	¼
12⅛	5¾	1,400	6⅛	6	6	Mountain Producers		$1,682,182	$10	40eQ	7- 1-30	29¼	22¾	28⅞	19½	22⅞	7
3½	2	100	2	2	2	New Bradford Oil		$1,095,291	$5	12½cQ	7-15-30	5⅞	4⅝	5⅝	4¼	5	2½
7¼	2	2,000	2⅝	2	2⅛	New Mexico and Arizona		$1,000,000	$1	....	.....	16	9¼	11⅞	7⅛	9⅜	2¼
11¼	3	300	4	4	4	North Central Texas	(sh)	400,000	N.P.	15cQ	9- 2-30	12¾	9½	14¼	8½	18½	6⅛
2½	¼	100	⅛	⅛	⅛	Pandem	(sh)	489,875	N.P.	....	.....	9⅜	3¼	6	2⅛	3½	½
4⅜	1⅝	2,000	2⅞	2⅝	2⅝	Pantapec Oil	(sh)	1,506,000	N.P.	....	.....	12⅛	7	15⅝	8½	10½	1⅞
		No sales.				Pennok Oil		150,000	N.P.	....	.....	12½	5⅛	7¾	4⅞	7¾	4⅝
10½	6	400	7	6	6	Red Bank Oil	(sh)	250,000	N.P.	....	.....	24¾	7	18	4⅞	16	9⅝
5⅜	2	500	2⅛	2⅛	2⅛	Reiter-Foster	(sh)	388,584	N.P.	....	12- 2-29	15½	3½	12⅞	4⅛	8½	1⅛
8⅝	2½	200	2⅝	2⅝	2⅝	Ryan Consolidated	(sh)	500,000	N.P.	....	.....	7	4½	12	4⅛	11	3
2½	1⅜	400	1½	1⅜	1⅜	Salt Creek Consolidated	(sh)	1,286,300	$10	10cQ	7- 1-30	8	5¼	7¼	5½	5⅞	1⅞
15¼	7	200	7⅞	7⅛	7⅛	Salt Creek Producers	(sh)	1,496,859	$10	50cQ	8- 1-30	35½	27¼	35	23⅛	25⅞	9
1	½	100	½	½	½	Savoy Oil		$750,000	$5	....	.....	7	1¼	3½	1	2½	⅜
4½	1⅝	100	1⅝	1⅝	1⅝	Venezuelan Petroleum	(sh)	755,090	$5	5cQ	2-15-30	7⅜	4¼	9⅛	4¾	6½	1¾
5	2	1,000	3	2¾	2¾	Woodley Petroleum		$500,000	$1	15cQ	3-31-29	7	4¾	8¼	4⅞	9½	2
2½	⅜	300	½	⅜	⅜	Y Oil & Gas		100,000	N.P.	....	.....	6	1¾	8⅜	2⅛	2⅞	¼

*Including one-half per cent monthly in stock. †Payable monthly and a monthly stock dividend of one-half per cent. x Ex-dividend.

STANDARD OIL STOCKS ON NEW YORK CURB

Quotations Compiled by Francis, Bro. & Co., Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

1930 High	1930 Low	Week ended October 29 Sales	High	Low	Close	Stocks—		Outstanding capital	Par value	Div. rate	Last paid	1927 High	1927 Low	1928 High	1928 Low	1929 High	1929 Low
18½	12¼	400	18½	18⅜	18½	Anglo-American Oil (vot. C.O.D.)		£4,192,635	£1	.36⅝	.....	21⅝	17⅞	22⅝	14⅞	17	11
1	⅜	400	½	⅜	⅜	Atlantic Lobos		.....	...	....	.....	..	..	..	..	..	..
25	14	100	16	16	16	Borne Scrymser		$1,000,000	$25	$1SA	10-15-29	59	50	56½	44½	46½	25
69	49	100	49	49	49	Buckeye Pipe Line		$10,000,000	$50	$1Q	12-14-29	60	45	76	53	74½	55
184⅞	118¼	100	118¼	118¼	118¼	Chesebrough Mfg.		$3,000,000	$25	$1Q*	7-30-30	126	76½	161	117	210	130
65¾	25	200	25	25	25	Cumberland Pipe Line		$1,500,000	$50	$1Q	9-15-30	137	89	114	67	75¾	40
54¾	34	100	35⅛	34	35	Eureka Pipe Line		$5,000,000	$100	$1Q	8- 1-30	68½	47	88	64⅛	70½	42
7	2½	100	3½	3½	3½	Galena Signal Oil		$16,000,000	$100	....	.....	13½	3½	13	4¼	6½	3
119	72⅝	400	73	72⅝	72⅝	Humble Oil & Refining		$74,103,300	$25	50cQ	7- 1-30	68½	54	114¾	59¼	128	74⅛
320	303	100	320	315	315	Illinois Pipe Line		$20,000,000	$100	$10SA	9-15-30	182	123¾	290½	176½	340½	260
30	15⅛	3,700	17½	16⅝	17	Imperial Oil of Canada (new)	(sh)	26,421,768	N.P.	12½cQ	9- 2-30	64¾	37¾	104	56¾	41	22
41	25	100	25	25	25	Indiana Pipe Line (new)		$3,000,000	$10	50cQ‡	8-15-30	94½	61	91⅞	74⅜	41⅞	26
24	13¾	7,800	15¼	15	15	International Petroleum (new)	(sh)	14,247,088	N.P.	12½cQ	6-16-30	29	28¼	55	35	30⅜	15
22⅜	13¾	100	14½	14½	14½	National Transit		$6,362,500	$12.50	25cQ‡	9-15-30	24	13½	32⅜	19⅜	25⅛	10⅛
21⅜	10⅛	100	13	13	13	New York Transit		$1,000,000	$10	40cQ†	4-15-30	44½	31¼	75	38½	17½	10
54	30⅛	100	31	31	31	Northern Pipe Line		$2,000,000	$50	....	7- 1-30	100	70	69	56½	63	41
		No sales.				Ohio Oil Co.		$60,000,000	$100	$6	.....	..	..	..	..	105	103¾
32	17	400	18½	18½	18½	Penn Mex Fuel		$10,000,000	$25	50cQ	8-22-30	39	12	84	28	44½	20
33	7¾	300	7¾	7¾	7¾	Solar Refining		$4,000,000	$25	$1.25SA	6-30-30	..	..	..	..	50	29
20¾	9	100	9	9	9	Southern Pipe Line		$1,000,000	$10	5cQ	6- 2-30	27¼	15½	19	15	22½	13
45⅞	25	200	26⅝	26⅝	26⅝	South Penn Oil		$30,000,000	$25	50cQ	6-30-30	41½	35	71⅞	36¾	60¼	35⅛
65	35	100	45¼	45¼	45¼	Southwest Pennsylvania Pipe Lines		$1,750,000	$50	$1Q	1-10-29	83	55½	102	70	70	60
59⅞	40	4,200	41	40⅛	40⅝	Standard Oil of Indiana		$348,175,069	$25	62½cQ‡	9-15-30	81½	64⅜	95⅞	70⅞	63	45
40½	24	600	25	25	25	Standard Oil of Kentucky		$25,654,516	$10	40cQ	6-30-30	130	111½	179¾	122¼	46⅞	29
48⅞	42¼	100	42⅛	42¼	42¼	Standard Oil of Nebraska		$4,649,225	$25	62½cQ‡	9-20-30	49½	40	54⅞	39⅞	50¼	40
108½	52⅞	200	57	54	57	Standard Oil of Ohio		$14,000,000	$25	62½cQ	7- 1-30	87½	72	134	71	129	60
10	4	100	4	4	4	Swan-Finch Co.		$861,466	$25	.43¾cQ	9- 3-30	21	14½	23½	16	18	10
97⅞	59⅛	3,600	64¾	63½	63⅞	Vacuum Oil Co.		$126,180,350	$25	$1Q	9-20-30	..	..	111	72	133¾	75

*Plus 50 cents extra. †Plus 10 cents extra. ‡Plus 25 cents extra. x Ex-dividend.

TRANSACTIONS IN OIL SHARES ON NEW YORK STOCK EXCHANGE

Quotations Compiled by Francis, Bro. & Co., Members of the New York Stock Exchange and Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

1930 High	1930 Low	Week ended October 29 Sales	High	Low	Close	Stocks—		Outstanding capital	Par value	Div. rate	Last paid	1927 High	1927 Low	1928 High	1928 Low	1929 High	1929 Low
31½	18	500	24½	23⅜	24¼	Amerada Corp.	(sh)	922,075	N.P.	50cQ	7-31-30	37⅝	27⅝	43⅞	27⅛	42⅝	17½
37	8¼	100	11	11	11	American Republics Corp.	(sh)	209,180	N.P.	....	.....	82½	35⅛	85	51⅜	64¾	12½
51	30⅞	10	33⅝	33⅝	33⅝	Associated Oil		$57,260,300	$25	50cQ	9-30-30	50¼	35	53⅜	37½	47¼	34½
51⅜	21⅞	4,300	22⅝	22⅛	22⅛	Atlantic Refining		$66,763,775	$25	25cQ†	9-15-30	131⅜	104	66⅜	50	77⅞	30
34	14⅛	800	16¼	16	16¼	Barnsdall Corp. A		$56,546,600	$25	50cQ	8- 6-30	35½	20¾	54	20	49½	20
30½	12	3,500	13½	13	13⅛	Continental Oil of Delaware	(sh)	4,741,554	N.P.	....	12-15-27	..	..	..	..	47⅛	18
71⅛	29½	100	30	30	30	General Asphalt	(sh)	413,333	N.P.	$1Q	9-15-12	96¾	65	94⅞	68	94¾	42¼
116⅞	44⅛	1,100	49	46⅝	46⅝	Houston Oil		$24,968,600	$100	....	.....	175¾	60⅛	167	79	109	26
11¾	9½	2,000	10⅜	10½	10½	Houston Oil (new)		.....	...	....	.....	..	..	..	..	..	..
32	15⅛	400	17¼	17	17¼	Independent Oil & Gas	(sh)	1,362,295	N.P.	50cQ	7-31-30	32¾	17⅝	38⅜	21¾	39⅜	17¾
28⅜	3⅝	54,500	4¼	3¼	3½	Indian Refining		$12,565,070	$10	....	.....	12⅛	7⅝	39⅝	9	53	13⅛
29½	21¼	1,900	27⅛	27⅛	27⅛	Lago Oil & Transport	(sh)	3,992,122	N.P.	....	5- 2-27	37¾	20½	39⅛	27⅜	38⅜	16½
12	4⅝	700	6¼	6⅛	6⅛	Louisiana Oil Refining	(sh)	1,190,063	N.P.	....	.....	18⅛	10	19¾	9⅜	18	7
10⅜	2	200	3	3	3	Maracaibo Oil	(sh)	330,000	N.P.	....	.....	22¾	12	25½	12½	18½	5⅛
37	13⅝	1,700	15⅛	14⅝	14⅞	Mexican Seaboard	(sh)	1,244,383	N.P.	....	10- 1-24	9¼	3	72	4⅝	59⅜	8¼
33	17¼	1,000	18⅞	18¾	18¾	Mid-Continent Petroleum	(sh)	1,857,912	N.P.	50cQ	7-15-30	39⅜	25½	44½	25⅛	39⅞	22⅛
		No sales.				Middle States ctfs.		$23,736,130	$10	....	7- 1-23	3¾	1⅝	7⅜	2⅜	5⅛	¾
32	21⅛	1,400	22½	22	22	Ohio Oil		6,648,052	N.P.	50cQ	9-15-30	67⅞	52	84	58½	79⅞	64¼
64¼	46¼	100	47⅜	47⅜	47⅜	Pan American P. & T.		$50,084,700	$50	....	12-20-27	65⅞	40⅛	50⅞	38¼	69	40½
67½	46¼	300	47⅜	47⅜	47⅜	Pan American P. & T. "B"		$121,110,650	$50	....	12-20-27	66⅜	40¼	58⅞	37⅜	69¼	40½
		No sales.				Pan American Western "B"		400,000	N.P.	....	1-30-27	37⅞	16¾	28⅜	15½	18½	13⅝
12¾	2⅛	200	3	3	3	Panhandle P. & R.	(sh)	199,370	N.P.	....	.....	18⅞	8	21¾	11½	15¼	3
80	47½	100	70	70	70	Panhandle P. & R. pfd.		$2,564,400	$100	....	7- 2-23	83	54	108	70	76	47½
44⅜	20⅛	2,900	23⅛	22¾	22¾	Phillips Petroleum	(sh)	2,593,075	N.P.	50cQ	6-30-30	60¼	36¼	53⅞	35¼	47	24¼
2½	⅝	500	⅞	⅞	⅞	Pierce Oil Corp.		$29,622,831	$25	....	.....	1⅛	½	5¼	½	3⅜	1
7⅛	2¼	200	3⅛	3⅛	3⅛	Pierce Petroleum	(sh)	2,500,000	N.P.	....	.....	5½	2½	7	3½	5⅞	½
54	22	3,100	22⅝	22⅛	22¼	Prairie Oil & Gas		$60,848,000	$25	50cQ*	6-30-30	55½	45⅝	68	46	65⅝	40½
60	27⅛	1,000	27⅝	27¼	27⅝	Prairie Pipe Line		$101,250,000	$25	75cQ†	6-30-30	190	130¾	280	172	65	45
11⅞	4	200	4¼	4¼	4¼	Producers & Refiners		$37,438,950	$50	....	9-15-23	33⅞	16¾	29⅞	16	25⅞	4
40	24	30	25¼	25¼	25¼	Producers & Refiners pfd.		$2,845,350	$50	....	5- 4-25	50	36⅞	49⅝	41	46¾	25½
27¼	10¾	1,900	12⅞	12⅝	12⅞	Pure Oil		$75,959,250	$25	37½cQ	9- 1-30	33½	25	31⅝	19	30¾	20
8⅜	6	8,500	6⅝	6¼	6½	Richfield Oil (new)		$52,410,875	N.P.	....	9- 1-30	28⅝	25⅜	56	23	49⅝	20
25⅜	7⅝	900	8⅞	8⅝	8¾	Rio Grande Oil	(sh)	1,236,270	N.P.	$2A	7-25-30	..	..	37½	32	42½	15
56½	43	4,600	45	44½	44½	Royal Dutch, N. Y.	(sh)	611,303	...	$1.875	8-13-30	54½	44¼	64	44⅝	64	43⅛
48⅜	37½	300	39	38⅜	39	Shell Transport & Trading Co.		£23,985,000	£1	$1.45	7- 8-30	48⅝	40½	47⅞	41⅜	51½	40⅝
25½	9¾	2,600	10⅞	10⅝	10⅞	Shell Union Oil	(sh)	13,066,497	N.P.	....	6-30-30	31¾	23⅝	39¼	23¼	31⅜	19
37	8	600	10	9⅝	10	Simms Petroleum		$8,353,620	$10	40cQ	9-15-30	25⅜	14¼	27¼	18⅛	40⅛	15
32	13	4,200	14⅛	13⅞	13⅞	Sinclair Consolidated	(sh)	5,500,000	N.P.	50cQ	7-15-30	22⅜	15	46¾	17⅜	45	21
112¼	106	400	110	109¾	109¾	Sinclair Consolidated pfd.		$16,025,250	$100	$2Q	7-15-30	104½	97	110	102½	111	103
42	17¾	400	18¾	18½	18½	Skelly Oil		$27,441,250	$25	50cQ	9-15-30	37⅜	24¼	42⅝	25	40½	28
75	51	3,800	52¾	52¼	52¾	Standard of California	(sh)	12,594,098	N.P.	62½cQ	9-15-30	60⅜	50⅜	80	63	81⅞	51½
49	19	300	20⅞	20⅜	20⅞	Standard of Kansas		$8,000,000	$25	50cQ	9-15-30	20⅞	14⅝	37¾	15	33¾	18
84⅞	52	10,800	55	54⅛	54½	Standard Oil of New Jersey		$634,999,200	$25	25cQ*	9-15-30	41⅜	35⅛	59⅜	37¾	83	49
40⅜	25½	4,700	27⅜	27	27¼	Standard Oil of New York		$445,223,675	$25	40cQ	9-15-30	34⅛	29¾	33¼	28¾	48⅛	31⅜
70	50	200	54⅝	54⅝	54⅝	Sun Oil	(sh)	1,416,869	N.P.	25cQ	9-15-30	34⅞	30	77	31½	68⅜	55
9⅜	1½	700	1½	1½	1½	Superior Oil Corp.	(sh)	776,979	N.P.	....	12-20-20	..	..	..	..	24	5¼
60½	38⅜	4,900	40⅞	40½	40½	The Texas Corp.		$246,204,900	$25	75cQ	7- 1-30	58	45	74⅜	50	71⅞	50
14½	5½	300	6¼	5⅞	6¼	Texas Pacific Coal & Oil Co.		$9,304,890	$10	2½% A‡	12-31-29	18⅞	12	26⅝	12¼	23⅞	9½
31	15⅛	100	15½	15½	15½	Tide Water Oil	(sh)	2,191,759	N.P.	20cQ	6-30-30	29¼	19	41½	19⅝	40	14
94⅞	83	100	85	85	85	Tidewater 5% pfd.	(sh)	$19,947,000	$100	$1.25Q	9-15-30	90⅛	85	100⅛	86	97½	85⅛
17¾	9¾	3,800	10⅛	9⅞	10⅛	Tide Water Associated	(sh)	5,560,424	N.P.	30cS	8-15-30	19⅛	15¾	25	14¾	23½	10
89¾	70	400	73	72	73⅛	Tide Water Associated pfd.		$73,284,500	...	$1.50Q	7- 1-30	..	..	..	..	90⅞	74⅛
50	28⅛	300	29¼	28¼	29¼	Union Oil of California		$104,342,375	$25	50cQ	8- 9-30	56½	39⅝	58	42⅜	57	42⅛
38½	25	1,400	25⅛	25	25⅛	Union Tank Car	(sh)	1,254,048	$100	$1.25Q	1- 2-30	127½	94	128⅛	110	163¾	121⅞
27	6½	1,000	6¾	6½	6¾	Warner-Quinlan	(sh)	632,948	N.P.	50cQ	7- 1-30	34½	24½	44⅞	26	42⅞	15
		No sales.				White Eagle Oil & Refining	(sh)	505,100	N.P.	50cQ	1-20-30	27½	20	38	20⅛	38	25
21	9⅜	200	10	10	10	Wilcox Oil & Gas	(sh)	428,907	N.P.	....	5-10-28	..	..	..	..	29¾	12⅞

*Plus extra dividend of 25 cents. †Plus extra dividend of 50 cents. ‡Payable in stock. x Ex-dividend.

In comparing highs and lows for the several years in the three tables, it will be necessary to take into consideration cases where there have been splits in the stock.

EASIER TONE IN THE EAST COAST MARKET

(Continued from Page 121)

fined products. Completion of the extensive refinery construction projects now under way in these countries, it is felt, will react further against the world demand for American refined products, and will adversely affect the business of small export operators in this country with no controlled sources of supply.

California Oil Receipts

Receipts of California crude and refined petroleum at Atlantic and Gulf Coast ports for the week ended October 25 totaled 560,000 bbls., a daily average of 80,000 bbls., compared with 542,000 bbls., a daily average of 77,428 bbls. for the previous week and a daily average of 62,714 bbls. for the four weeks ended October 25. Details follow:

	Bbls. of 42 gals.
At Atlantic Coast ports—	
Boston	95,000
New York	277,000
Philadelphia	116,000
Total	488,000
Daily average	69,714
At Gulf Coast ports—	
Total	72,000
Daily average	10,286
At Atlantic and Gulf Coast ports—	
Total	560,000
Daily average	80,000
Daily average four weeks	62,714

Distribution of total California oil receipts is as follows:

Gasoline	378,000
Gas oil	102,000
Fuel oil	80,000

Shipments of refined petroleum products from California for the week (with identity of owner of tanker moving the oil where such owner of record is an oil company) follow:

To New York—146,200 bbls. of gasoline on the Australia; 97,000 bbls. of gasoline on the Sylvan Arrow (Standard Transportation Co.-S. O. N. Y.); 65,200 bbls. of Diesel oil on the Eagle (Standard Transportation Co.-S.O.N.Y.); 5,000 bbls. of gasoline and 75,000 bbls. of kerosene on the Antietam.

To Paulsboro, N. J.—76,500 bbls. of gasoline on the K. R. Kingsbury (Standard Oil Co. of California).

To Portland, Me.—97,000 bbls. of gasoline on the Levant Arrow (Standard Transportation Co.-S.O.N.Y.).

To Philadelphia—1,600 bbls. of fuel oil and 6,500 bbls. of gasoline on the W. D. Anderson (Atlantic Refining Co.).

PLANT CONTROL CENTERS IN THE LABORATORY

(Continued from Page 31)

The special naphtha cuts are taken from the crude oil battery as are the kerosene and special distillates and gas oils.

The wax distillate cut at the crude oil stills furnishes the raw material for lub and wax plant operation. The equipment in this plant is for the manufacture of neutral oils, overhead bright stocks and paraffin wax.

In the compounding house, which adjoins the lub plant, all the finished lubricants, greases and special oils are compounded.

Laboratory Control

The laboratory control starts before the crude oil is bought by the crude oil purchasing department. A thorough analysis is made on basis of value in the plant operation. This includes not only the routine tests such as gravity, sulphur, cold test, corrosion, carbon residue, etc., but also a study of the cuts with the view of determining their special use in the refinery operation.

As shown in the accompanying tables the gravities vary from 25° to 60° A.P.I. and the yields of straightrun gasoline from 13 to 78 per cent. The table also shows important differences in the distillation range and antiknock value of the straightrun gasoline cuts.

Very little natural gasoline is used, due to the small quantities available in the Rocky Mountain fields and the long hauls necessary to secure supplies from the Mid-Continent or California. Practically the only high gravity material outside the crude available comes from the plant's gas recovery system. The problem of the operators is to properly blend the straightrun gasolines, cracked gasoline and the light ends from the gas recovery system so as to secure products of uniform specifications. The same uniformity is required in regard to antiknock rating whether the gasoline is used for Ethyl Gasoline stock or sold as a white grade.

Treating is another phase of this problem. Some of the straightrun gasolines require only a slight sweetening while others carry objectionable sulphur compounds and odors which necessitate special treatment. The pressure distillate treatment also varies with the quality of the charging stock.

A "rule of thumb" method of handling blending and treating problems at this refinery would soon put the marketing department out of business and also the refinery. Vigilance on the part of the laboratory staff working three shifts daily coupled with close co-operation on the part of the operating crews, is necessary to assure uniform motor fuels and special naphthas in a plant whose operations often vary from day to day.

Kerosene is secured from the crudes from which it is most easily obtainable, the operators of the crude battery being informed when the cut is to be made. The kerosene demand is not large in this section and only a small yield based on total crude runs is necessary.

Lubricating Stock

The same procedure is necessary in making the wax distillate cuts for the lub plant. The crudes vary from what in refinery parlance would be termed paraffin base, through the variously mixed bases to asphaltic bases. Due to the necessity of using what is available, a special study of crudes in relation to lub oil manufacture has been made by research chemists.

Some facts regarding the quality of crude oil necessary have been discovered and applied in daily operation which are not in line with the generally accepted orthodox principles of lubricating oil manufacture. This problem has been studied not only from the angle of securing satisfactory motor oils, but also in the manufacture of a wide variety of industrial oils. This feature of the laboratory's work continues through the compounding house, including the testing of materials used in the manufacture of all types of greases.

Checking Crudes

Each car of crude is checked as it arrives at the refinery. So far as possible the crudes are segregated in storage so that the oils of similar qualities are stored in the same tank. No large crude oil storage is maintained, the general policy being to run the crudes received at the plant from week to week.

The method of running the battery of crude oil stills depends on the quality of the crude available and the products desired. In some cases no attempt is made to secure overhead products except the gasoline and a gas oil charging stock for the cracking units.

Where the laboratory analysis has determined that a certain crude oil or a blend of two or more crudes is suitable for other products a check is made of the overhead material and at the proper time the desired cuts are taken. In this connection all overhead streams regardless of the method of operation, are tested every two hours.

Careful checking is particularly necessary when special naphthas are being refined from the light gasoline fractions and paraffin wax distillate cuts are being taken for the lub plant operation. The latter is carefully checked as to cloud and viscosity.

The routine testing ends when the products are loaded in tank cars or in packages ready for shipment.

TABLE 1—GRAVITIES, DISTILLATION RANGES STRAIGHTRUN GASOLINE YIELDS AND ANTIKNOCK RATING OF CRUDES REFINED AT REFINERY OF UTAH OIL REFINING CO.

Name of crude—	Gravity	Initial	% over at 221°F.	% over at 284°F.	% over at 392°F.	% over at 486°F.	Net yield of gasoline	Antiknock rating*
LaBarge	25.1	196	2	4	9	..	13	.93
Iles Dome	33.3	160	3	9	30	32	21	.75
Rock River	36.1	120	10	18	29	40	29	..
Hogback	60.5	118	43	61	76	86	78	.72
Lost Soldier (deep sand)	33.5	132	6	14	27	38	28	.71
Cat Creek	49.6	174	4	26	63	..	63	.71
Rattlesnake	40.9	170	8	20	39	..	39	.73
Wellington Dome	32.0	144	8	17	30	..	30	.75
Pressure still gasoline	...	...	..	..	..	..	..	.97

*Knock testing equipment of Ethyl Gasoline Corp. used in making tests.

TABLE 2—DISTILLATION RANGES OF STRAIGHTRUN GASOLINES AT SALT LAKE CITY REFINERY OF UTAH OIL REFINING CO.

Name—	Cracked gasoline	LaBarge	Cat Creek	Iles Dome	Hog-back	Lost Soldier (deep sand)	Rattle-snake	Wellington Dome
Gravity	...	48.8	59.6	56.5	58.2	58.6	55.4	56.6
Initial ° F.	92	146	138	140	98	114	130	131
Per cent at 221° F.	33	24	17½	8	55	28	26	24
Per cent at 284° F.	58	53	66	44	78	55	60	68
Per cent at 374° F.	88	90	94½	93	95	92	94	93
Per cent at 392° F.	91	93	96	96	96	95	96	96
Endpoint	410	428	410	416	410	418	406	412

FEW OLD OIL POOLS ESCAPE CURTAILMENT

(Continued from Page 32)

Field—	Daily aver. prod. (bbls.)	Wells prod. as of Sept.30	Aver. prod. per well
Jefferson County:			
Hambro, etc.	2,602	142	18.32
6s-6w	134	158	17.92
Total	2,736	300	9.12
Caddo County:			
Cement	3,932	210	18.72
Garvin County:			
Robberson	1,798	240	7.49
Grady County:			
Knox	2,832	158	17.92
Beckham County:			
Sayre	41	15	2.73
Marshall County:			
Madill	763	99	7.70
Grand total	550,304	62,935	8.74

The method of operating the prorated pools other than Class A according to the orders of the corporation commission will be as follows:

Class B Pools

The following semiflush pools, placed in "Class B," Allen (Wilcox), Allen (Cromwell), Bowlegs, Earlsboro (proper), Earlsboro Townsite, Little River, East Little River, Marshall-Lovell, Maud, Mission, Sasakwa, Searight, Seminole, East Seminole and St. Louis, are curtailed in the following manner: Allowed production, 50 per cent of potential production with this qualification—that any lease not capable of making in excess of 50 bbls. per day shall be allowed an exemption of 5 bbls. per well per day and the curtailment of 50 per cent shall only be applied to the excess over an average per well of 5 bbls.

Class C Pools

"Class C" pools include Carr City with its new extension and South Earlsboro. These pools, to recognize the market outlet and to conform to the peculiar conditions therein shall be curtailed according to the following schedule: Average barrels per well per lease: 300 bbls. or more—allowed production, 25 per cent; 200 to 300 bbls.—allowed production, 30 per cent, not over 75 bbls.; 100 to 200 bbls.—allowed production 37½ per cent, not over 60 bbls.; less than 100 bbls.—allowed production, 50 per cent.

Also, in these pools where a lease is not capable of making more than 50 bbls. per day, there shall be allowed an exemption of 5 bbls. per well per day as in "Class B."

Class D Pools

There being no other pool in the State similar to that of Konawa, it is placed in a class by itself and prorated on the following schedule: Average barrels per well per lease: 400 bbls. or more—allowed production, 18¾ per cent; 300 to 400 bbls.—allowed production, 22½ per cent, not over 75 bbls.; 200 to 300 bbls.—allowed production, 26¼ per cent, not over 67 bbls.; 100 to 200 bbls.—allowed production, 37½ per cent, not over 53 bbls.; less than 100 bbls.

Also, in Konawa, leases not capable of making over 50 bbls. per day shall be granted an exemption of 5 bbls. per well per day as in "Class B."

Class E Pools

East Earlsboro and West Asher-Wanette are the Class E pools. Owing to the changing relation between the potential production and the market outlet from these pools, it is ordered that each of them be limited in production to a stated figure representing the present market outlet which, in the case of the East Earlsboro Pool, is 15,000 bbls. per day, and in the case of the West Asher-Wanette Pool is 7,200 bbls. per day. And that the umpire and operators' committee be required to ascertain and compute from time to time the percentage of potential production which may be allowed to conform the permitted production to the market outlet and to report the same to the corporation commission as the basis for an ancillary order. But in these pools the 5-bbl. per well exemption in leases not capable of making in excess of 50 bbls. per day shall apply as in "Class B."

Class F Pools

Tatums and Chandler Pools are in Class F. Both of these pools have new extensions with potentially large wells along with old, small wells. Having in view the present market outlet from these pools, it is ordered that they be curtailed in the following manner: Wells with a potential daily production of 400 bbls. or more shall be allowed 100 bbls. daily; wells with a daily potential of from 100 bbls. to 400 bbls., 50 bbls. per day; wells with a daily potential production of less than 100 bbls. shall be allowed an exemption of 5 bbls. per day and be curtailed 50 per cent of the excess over 5 bbls. The umpire and operators' committee shall from time to time make a survey of the market outlet from each of these pools and in case the market demand increases this fact, together with suggested changes in the percentage of allowable production, shall be reported to the commission as the basis for an ancillary order.

Class G Pools

Class G pools include West Perry, Orlando and Township 20n, Range 4w. These new pools of unascertained possibilities are now being curtailed on the basis of the following maximum allowed output which shall be continued until otherwise ordered by the commission: West Perry, 600 bbls. daily; Orlando, 400 bbls. daily; Township 20, Range 4w, 400 bbls. daily.

Oklahoma City Pool

The Oklahoma City Pool is Class H. The corporation commission allocates to the Oklahoma City Pool an outlet of 131,095 bbls. per day in October, 134,589 bbls. per day in November and 131,003 bbls. per day in December. This nomination of the total permitted production of the pool shall serve as a basis for fixing the proportional production of the wells in said pool until the commission finds from evidence that a greater or less reasonable market demand obtains. The umpire and operators' committee are directed to compute the percentage of pro-

CALIFORNIA CRUDE OIL PRICES

(Continued from Page 127)

Column 5—Price change posted by Standard of California September 16.
Column 6—Oil below 14 gravity posted at 45 cents.
Column 8—Posted by General Petroleum Co.
Kettleman Hills—Union Oil Co., September 22, 35 to 39 gravity, $1.10; 40 to 44 gravity, $1.20; 45 to 49 gravity, $1.35; 50 to 54 gravity, $1.50; 55 gravity and above, $1.65. Standard Oil Co. of California, 55 gravity and above, $1.65.

ration from time to time as found necessary to conform the permitted production to the reasonable market demand and to report their findings to the commission as a basis for an ancillary order.

It is further ordered that whatever reasonable market demand from the pool shall exist at any time shall be prorated and allocated among all the producing wells, so that each well shall receive its prorata share of the reasonable market demand, and the pipe line companies are hereby directed to co-operate with the umpire in so arranging pipe line connections that there shall be no discrimination in favor of one producer and against another.

Shutdown Time

To establish equality between producing wells and drilling wells, each well now drilling or which may be commenced prior to December 31, 1930, shall take a delay prior to being brought into production equal to the accumulated shut-in time and accumulated equivalent time resulting from pinching of producing wells from the beginning of the proration period in each pool, the period of delay to be computed in each instance after allowing seven days for the cement to set: Provided the maximum shut-in time in each pool shall be according to the following schedule:

Area—	No. of days to set cement	No. days of open flow for test	Days shut down	Total
Oklahoma City	7	1	57	65
East Earlsboro	7	1	41	49
Konawa	7	1	16	24
West Asher-Wanette.	7	1	16	24
Marshall-Lovell	7	1	16	24
South Earlsboro	7	1	16	24
Seminole et al	7	1	16	24

Previous orders of the corporation commission as to wells now completed but not on production will be continued in effect as to the shutdown requirements. Wildcat wells hereafter completed and opening new pools, sands or zones shall have one day of open flow for test and thereafter the production will be pinched in to 50 bbls. per well per day until further order of the corporation commission. A wildcat well will be considered as one outside of a pre-existing drainage area.

PRORATION POTENTIALS ARE HARD TO SECURE

(Continued from Page 33)

from the pool between the different wells or units within the field has required considerable adjustment.

In the Yates Pool, Pecos County, Texas, the potential capacity of this field has been very large almost from the first and its pipe line outlet has been limited to about 110,000 bbls. daily so means of dividing the required amount of oil among the various producers in an equitable manner has presented problems that the engineers are still working on although agreement as to methods of allotting this capacity of outlet has long ago been devised.

At the fall meeting of the petroleum division of the American Institute of Mechanical Engineers in Tulsa October 2 and 3, H. C. Hardison presented a paper on the "Proration of Yates Pool," and in it he states that the present plan was put into effect in July, 1928, and the field has been divided into 100-acre units as nearly as possible and prorated upon that basis.

Under this plan 25 per cent of the pipe line outlet is divided equally between all of the producing units in the field, and the 75 per cent is prorated according to the average unit potential.

The average potential for the units is the figure obtained by adding the daily potentials of all the wells on the unit and dividing the sum by the number of wells.

The daily potentials of the wells are obtained by gauging each well, under open flow conditions, for one hour every six months. The ratio that the average potential of each unit holds to the sum of all the unit average potentials, multiplied by 75 per cent of the pipe line outlet gives the potential allowance of the unit. The sum of the unit allowance and the potential allowance is the total amount of oil that can be produced for the unit.

Each unit must produce oil allocated to it, and offset wells on neighboring leases are produced ratably to their potentials.

This plan has worked quite satisfactory and was placed in effect by order of the Railroad Commission of Texas, the body in that State which governs the production of gas and oil and enforces conservation measures. The commission's order specifies an advisory committee consisting of one representative for each company and that committee appoints an executive committee from its members to work with the field umpire in administering the order.

Other Pools Follow This Practice

As other pools were brought in the experience gained in Yates Pool was put into practical use and as the Hobbs, N. M., area has been opened up the same general plan has been made effective except that the size of the units in the Hobbs area is 40 acres instead of 100 acres as in Yates.

Operators in the West Texas territory have expressed themselves as well satisfied with proration conditions as it gives them opportunity to operate their indivdual properties as they deem best, whereas under unit operation one company would operate the entire pool, but it is now developing that there are some details of operating practice that must be made uniform if the best results are to be obtained under such proration plan.

In the Hendricks Pool, Winkler County, Texas, the rapid production of some wells undoubtedly influenced the influx of water which has finally flooded the whole area and necessitated the production of from 10 to 12 bbls. of water for every barrel of oil recovered under average conditions and in many cases the water-oil ratios are much higher.

Having this condition in mind the operators in Hobbs, N. Mex., Pool have used every effort to keep water encroachment under control and it is therefore common practice to tube all wells when finished and produce them under sufficient back pressure to hold the water under control.

To secure potentials of the wells under this method of finishing has still further complicated matters for if the flow through 3-inch tubing, the size generally used in the Hobbs Pool, is taken as the basis for the estimating of potential for the open flow of the well there must be some formula worked out that will give definite ratio between tubing and open flow conditions.

Engineers Study Problem

There have been many meetings of the engineers' committee of the Hobbs Pool operators to discuss these proration problems and much data have been secured bearing upon it and these have been studied from every angle by those most familiar with the actual producing conditions in this field. As these men have a background of many years' experience in this type of production they are well equipped to undertake this work and are making progress but it is admitted that there are still many unknown factors entering into these problems that must be solved.

Along with this article there is reproduced three graphs of results obtained

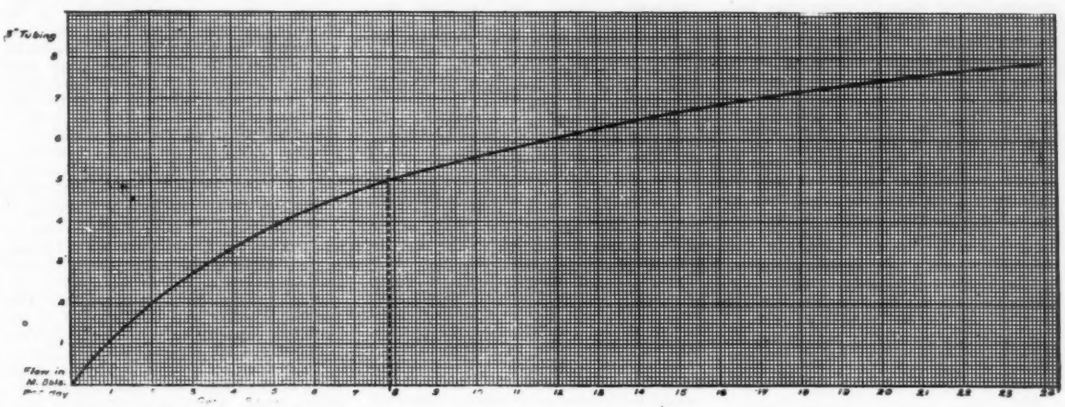


Figure 2—Example shown by dotted lines. If flow was 5,000 bbls. through tubing, draw horizontal line from that point at left of margin of graph to the curve and connect the point where these lines intersect with a vertical line to the base line of graph. In this case this will show that the potential for the well when flowing through casing and tubing should be 7,850 bbls. per day.

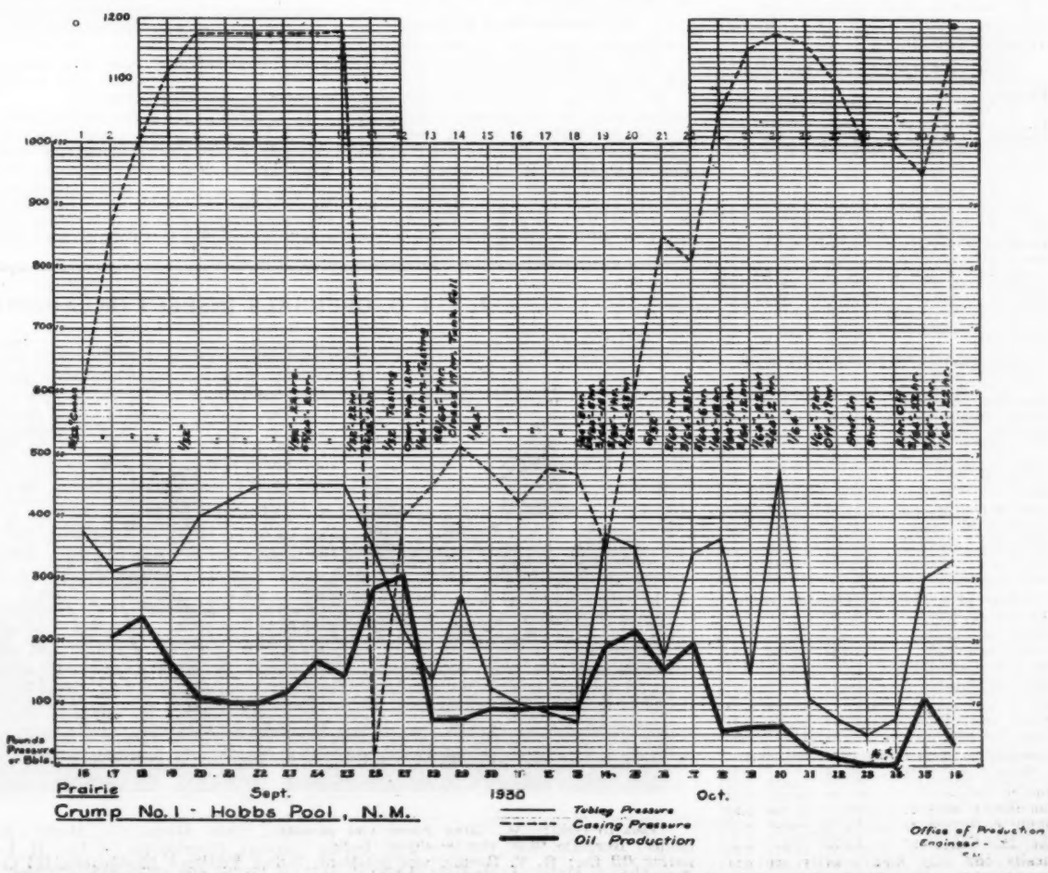


Figure 3—Producing conditions on No. 1 Crump, Hobbs, N. Mex., showing loss of pressure after being produced wide open a short time.

from these studies and these results are not presented as being the final report of the committee but merely to show how this work is being done so that others having similar problems in other pools may benefit by this experience.

As each well is brought in it is permitted to flow open for periods that have varied from three hours down to 1½ hours and a portion of the oil run into storage during these flow tests has been taken as the representative rate of production for the well.

When the three-hour flowing period was in effect it was the practice to take the last two hours of this flow period as the basis for estimating potential of the well, and the amount of oil gauged into the tanks in that two-hour period was multiplied by 12 to give the estimated 24-hour open flow capacity of the well.

As many large wells have been brought in in the northwest portion of the field it has been decided to cut this time for open flow from 3 to 1½ hours and take the last hour's gauge as representative of the well's full capacity. It is estimated that the gas head on the well will blow off in the 30 minutes after it is first opened, especially as most wells are produced to some extent before the test is actually run in order to clean them of mud and check connections.

Where the wells are flowed through the tubing only it has been found that there is some relation between this flow capacity of the well and the open flow capacity, and tests have been made on all wells and tabulated as shown below under open and tubing flow conditions:

TEST DATA—HOBBS, N. MEX., POOL
Group No. 1, 0 to 3,800-Bbl. Wells

Company, farm—	Well	Serial No.	Test—gauge open	Test—gauge tubing
Amerada, State	A-2	6	2,657	1,426
Amerada, State	B-2	8	1,717	1,782
Continental, State	B-1	15	1,944	2,366
Empire, Fowler	2	19	1,814	1,296
Humble, Bowers	8	37	2,981	2,138
Midwest, Capps	31	43	1,096	886
Midwest, Leach	24	44	427	756
Midwest, State - Unit P, Sec. 4	26	51	1,264	1,328
Midwest, State - Unit K, Sec. 4	3	52	2,138	2,300
Midwest, State - Unit F, Sec. 4	26	53	2,009	2,268
Midwest, State - Unit J, Sec. 4	4	56	2,300	2,365
Prairie, Crump	2	68	767	1,015
Shell, Berry	1	71	2,398	2,592
Continental, State	A-2	13	3,013	2,819
Continental, State	B-2	16	2,203	1,555
Midwest, McKinley	6	45	2,203	2,203
Group No. 2, 3,800 to 6,800-Bbl. Wells				
Atlantic, State	1	11	5,378	3,175
Empire, Hardin	2	21	5,702	3,758
Gypsy, Grimes	5	30	5,378	4,666
Gypsy, Graham	1	25	6,091	4,147
Humble, Bowers	2	33	6,350	4,666
Landreth, State	B-1	40	4,018	2,786
Midwest, State - Unit C, Sec. 15	1	47	5,087	3,985
Midwest, State - Unit E, Sec. 4	33	57	5,864	4,471
Ohio, State-Indep.	2	63	5,308	4,277
Prairie, Crump	1	67	4,730	3,424
Shell, McKinley	A-4	76	5,378	4,666
Shell, McKinley	A-5	77	4,471	3,985
Shell, Grimes	1	72	6,156	3,175
California Co., State	1	88	4,126	3,402
Texas Co., State	C-1	93	6,286	5,670
Texas Co., McKinley	1	90	6,055	4,850
Texas Co., McKinley	3	92	6,350	4,147
Shell, State	A-4	83	6,156	3,920
Group No. 3, 6,800 to 10,500-Bbl. Wells				
Amerada, McKinley	1	1	8,294	5,184
Amerada, State	B-1	7	9,137	5,573
Amerada, McKinley	4	4	7,517	4,277
Gypsy, Grimes	4	29	8,165	5,443
Humble, Bowers	1	32	7,387	5,314
Ohio, State	1	59	9,590	6,026
Prairie, Grimes	1	69	8,845	5,119
Shell, McKinley	A-7	79	7,193	4,730
Skelly, Fowler	1	86	9,720	5,638
Texas Co., State	C-2	94	9,933	6,138
T-P Coal & Oil, State	G-1	95	8,618	4,666
Tidal, Hardin	1	98	7,646	4,730
Ohio, State	3	61	7,517	4,730
Ohio, State-Northrup	5	66	7,096	4,666
Texas Co., McKinley	2	91	9,817	5,313
Gypsy, Grimes	6	31	9,493	5,346
Group No. 4, 10,500 to 14,000-Bbl. Wells				
Empire, Hardin	1	20	12,312	6,091
Empire, Fowler	1	18	12,441	6,350
Getty, McKinley	1	22	12,182	6,091
Getty, McKinley	4	24	12,701	6,383
Ohio, State-Northrup	1	62	11,016	5,573
Shell, McKinley	A-1	74	11,664	5,767
Shell, State	A-2	81	11,534	6,545
Shell, McKinley	A-2	75	11,470	5,767
Shell, McKinley	A-6	78	11,016	5,767
Sun, McKinley	1	87	11,147	5,538
Group No. 5, 14,000 to 18,000-Bbl. Wells				
Amerada, McKinley	2	2	15,552	6,480
Amerada, McKinley	3	3	14,839	6,221
Gypsy, Grimes	1	26	16,654	6,739
Humble, Bowers	3	34	15,422	5,897
Humble, Bowers	4	35	15,228	7,258
Humble, Bowers	9	38	16,423	8,212
Midwest, Byers	33	42	17,431	7,776
Shell, State	A-1	80	17,431	6,512
Tidal, Grimes	3	99	16,273	6,610
Group No. 6, 18,000 to 22,000-Bbl. Wells				
Getty, McKinley	2	23	20,023	7,128
Gypsy, Grimes	2	27	20,153	7,517
Humble, Bowers	5	36	19,829	7,387
Ohio, State-Indep.	3	64	21,060	7,387
Shell, Grimes	2	73	18,605	7,166
California Co., State	2	89	18,792	7,063
Tidal, Grimes	1	96	20,993	7,387
Group No. 7, 22,000 to 26,000-Bbl. Wells				
Amerada, State	A-1	5	22,550	7,160
Gypsy, Grimes	3	28	24,240	8,232
Midwest, State - Unit D, Sec. 4	8	55	23,458	8,025
Continental, State	A-3	14	25,531	8,100

From these data the committee has constructed a curve for this field which is shown in Figure 1 and this curve is approximately representative of well capacities for this area.

However, it will be noted that in every group of wells, designated by the boundary lines drawn around portions of the curve, there are some wells that do not fall near this line of estimated potential.

As the curve was made by plotting tubing flows against open flow gauges and in many cases it was found that the proportion of oil put into the tanks through the tubing was much in excess of what it was estimated it should have been, it has been decided that there must be mechanical conditions at the particular well that will necessitate further checking and adjustment before the true gauging is completed. To this end the committee is now testing those wells that do not follow the general conditions set up by field tests in this area and will report back to the general committee from time to time with recommendations.

From the curve prepared by the Hobbs engineering committee another curve has been developed by the engineers for the Prairie Oil & Gas Co. and is shown in Figure 2. In developing the curve shown in Figure 2 it was hoped that a true hyperbola could be drawn but this did not happen.

A hyperbola is described as a plain curve so drawn that the difference of the distances from any two points of it to two fixed points is equal to a given distance. It was assumed that this would be developed from the experimental data secured from the flow tests because they were secured by flowing through tubing only and tubing and casing and the amount of oil and gas delivered from a well under these two conditions of flow should be related to one another.

Experimental Data in Error

From the work done by the committee in Hobbs Field and by engineers working on this problem in the home offices of the oil companies interested it became evident that the experimental data are in error and this is now being checked.

The committee at Hobbs did find out that E. O. Hickstein's formula for orific flow reported in his paper presented before the annual meeting of the American Society of Mechanical Engineers, December 7-10, 1915, covering his work in the Joplin district for the Empire Companies held in about 80 per cent of the cases and those that did not fall within this classification were evidently in error as to the experimental data furnished.

If it can be proven that this formula can be applied to work of this character it may then be possible to develop something definite to be applied to the estimation of potentials for wells of all characters without requiring them to be flowed wide open at any time and such a formula would be of great benefit to the industry for every open flow test must of necessity bring to the surface of the ground more oil than is desired under proration conditions and the well is therefore penalized for this excess production, which in turn imposes upon that well producing conditions that are not common to other wells within that area.

Pressure Drops Difficult to Make Up

Figure 3 shows the results obtained at the Prairie Oil & Gas Co.'s No. 1 Crump in the Hobbs Field where the well was produced through a flow bean for a period of time under approximately 1,180 pounds pressure and then opened to its full flow capacity only to loose its flowing pressure for a period of 15 days.

This condition is explained by the character of the formation encountered in the Hobbs Field. Cavities underground were apparently drained of their oil and gas during the open flow period and it required 15 days' time for these cavities to again build up to their previously recorded pressure.

Such a condition indicates that every precaution must be taken in producing wells in that area to prevent the encroachment of bottom and edge water for when the pressure within underground cavities is lowered below that common to the rest of the producing zone it is possible for water to cut across to the area of low pressure ahead of the oil and in this way cone around the well and cut off much good oil.

Valuable Work Being Done

In the Yates Pool the engineering committee is working upon problems of bottom hole pressure and it is hoped that before the end of this year its report will be ready for release.

The Hobbs engineering committee is also reviewing the data covering wells in that area and they are to meet again in December for final decision, if possible, upon interpretation of these data and the development of formula that will be applicable to conditions there.

In as much as the period during which it will be necessary to prorate fields will evidently extend over a long time this work by the engineers and production men in many fields is of great importance to the industry, for by such study data are being gathered which it is hoped will finally be resolved into definite laws and formula that can be applied to the production of oil and gas from both sand and limestone areas.

It now seems quite definitely established that the shutting in of wells or producing them to only part of their capacity does not decrease their ultimate recovery. This applies to the average well in the pool, and recognition is being taken of the fact that certain wells located at the edge of the structure must be considered as exceptions to the general rule, but a knowledge of the laws of flow of gas and oil underground and their relation to full capacity flow of wells is essential at this time and it is hoped that these data will soon be reduced to definite form and they will then be applied to a sufficient number of fields to prove their efficacy.

IMPERIAL DISTRIBUTES SURPLUS EARNINGS

(Continued from Page 130)

preferred stock, to 42 cents a share (par $25) on 1,099,472 shares of common stock. This compares with $736,274 or 59 cents a share on 1,099,659 common shares in preceding quarter, and $1,614,514 or $1.47 a share on 1,093,952 shares in third quarter of previous year. The 6 per cent preferred stock was issued in May, 1930.

Net profit for first nine months of 1930 amounted to $1,930,306, after above charges, equal, after preferred dividends paid, to $1.51 a share on 1,099,472 common shares, comparing with $4,813,451 or $4.40 a share on 1,093,952 shares in first nine months of 1929.

Derby Oil

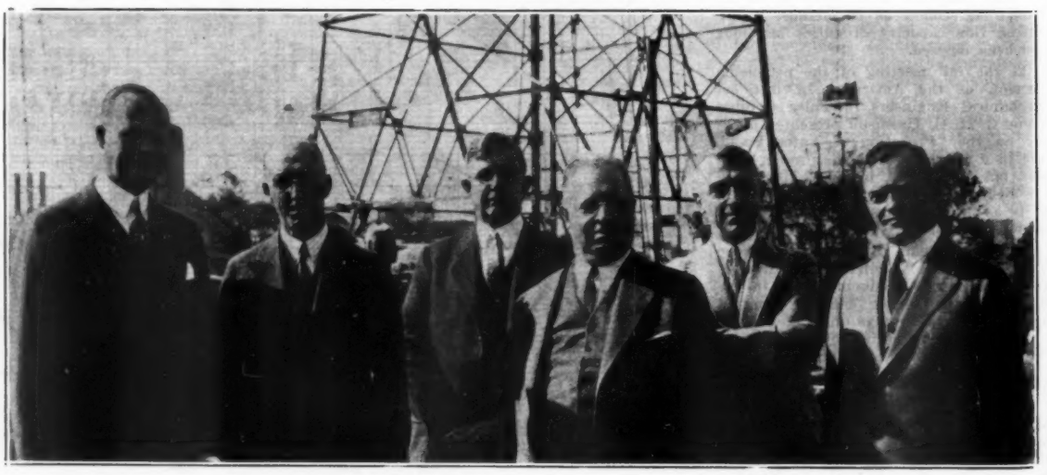
Statement of Derby Oil & Refining Corp. and its subsidiary, Derby Oil Co., as of September 30, 1930, shows total assets of $4,999,410, current assets of $1,032,774, current liabilities $609,388 and net worth $4,264,416.

Net profit of Derby Oil Co. and its subsidiary, Industrial Petroleum Co. (controlled by Derby Oil & Refining Corp.), for quarter ended September 30, 1930, was $218,151 after taxes, depreciation, depletion, lease rentals and other deductions, comparing with $361,177 in preceding quarter. For the nine months ended September 30, 1930, net profit amounted to $540,361.

Empire Gas & Fuel

Empire Gas & Fuel Co. declared the regular monthly dividends of 50 cents on the 6 per cent preferred, 54 1-6 cents on the 6½ per cent preferred, 58 1-3 cents on the 7 per cent preferred, and 66 2-3 cents on the 8 per cent preferred stocks, all payable December 1 to stock of record November 15.

I. T. I. O. OFFICIALS INSPECT OKLAHOMA CITY FIELD



Left to right: W. Alton Jones, vice president, Cities Service Co.; Herbert R. Straight, vice president, the Empire Companies; Burdette Blue, vice president, Indian Territory Illuminating Oil Co.; H. V. Foster, president, Indian Territory Illuminating Oil Co.; H. V. Hoenig, vice president, Indian Territory Illuminating Oil Co., and Paul Klapp, National Electric Light Association.

SPECIAL DIE NIPPLE DOES WORK IN TAMING OKLAHOMA CITY WELL

The Morgan Royalty Co.'s No. 1 Stout, Section 2-11-3w, in the Oklahoma City Pool, was brought under control Sunday afternoon, November 2, after blowing into the air since 6 p.m., October 30, by use of equipment similar to that used in conquering the Mary Sudik and Sigmon wells in the south part of the same field.

The well went wild when valves failed to hold the pressure exerted by the flow of gas and oil and was brought under control again by the use of a special die nipple that was lowered over a 16-inch joint of 6⅝-inch casing that formed the top part of the flow string at this well.

This special equipment was made by the American Iron & Machine Co., of Oklahoma City, Okla., which also manufactured the special nipples for the Mary Sudik and Sigmon wells.

After working day and night the die nipple was completed and ready to lower into place by Sunday morning and the gates above the die nipple controlling the flow of gas and oil were closed at 3:30 p.m. and it was found that the connections would hold, thus ending the career of another of Oklahoma City's wild wells.

This well has been of particular interest because of its location close to the business section of Oklahoma City and the danger of fire that existed while it was flowing out of control.

Morgan Royalty Co.'s No. 1 Stout, flowing wild, 1 mile from center of Oklahoma City's business district.

P. D. SCHENCK, EXPERT IN CORROSION, IS DEAD

DAYTON, Ohio, Nov. 3.—P. D. Schenck, nationally known as an authority on metals best suited to handle acids and to resist corrosion, died here after 15 years as president of the Duriron Co., of this city. He had been interested in Dayton industrial enterprises 30 years.

Mr. Schenck was educated at the Sheffield Scientific School, Yale University, and in a short time became president of the Dayton Malleable Iron Co., Dayton. While so engaged he made a study of acid-resisting alloys.

In the World War Mr. Schenck was commissioned a captain in the Signal Corps and supervised the inspection of material manufactured for the Government in the Middle West.

LABORATORY ALWAYS AN ESSENTIAL PART

(Continued from Page 123)

ducing a gallon of gasoline. That is he does not consider that while the laboratory may not assist in increasing his production that it might have helped him reduce the cost of producing what he is already doing. A vast amount of knowledge concerning the various constituents in the gas and gasoline is available as well as application of information and formulas relating to problems of absorption, distillation, compression, fractionation, heat transfer, etc. These are tools with which the laboratory can be of very material assistance in improving the operating conditions of almost any plant, in fact it could be truthfully said that there is not a gasoline plant operating without access to a well equipped, efficient laboratory that could not be very materially improved if the latter were available.

CRUDE PRICE CHANGES

(Continued from Page 128)

and North Central Texas fields on November 3 changed its price schedule posted October 25 by making a top price of $1.07 for crude oil of 40° and above, thus meeting the Carter-Humble-Magnolia top price. The Prairie Oil & Gas Co. and other Kansas, Oklahoma and North Central Texas purchasers adopted followed the Stanolind in fixing 40 gravity and above at $1.07.

In North Louisiana and Arkansas The Texas Company on October 28 followed by the Standard Oil Co. of Louisiana and the Magnolia Petroleum Co. on October 29 applied the price schedule they had already announced for North Central Texas, Oklahoma and Arkansas to the high grade fields and lowered prices in lower gravity fields in which they purchase. Louisiana Oil Refining Co. and Atlantic Oil Producing Co. did likewise on October 30.

On November 1 the Joseph Seep Purchasing Agency lowered Pennsylvania grade prices 15 cents per barrel. Tide Water Pipe Co. reduced Bradford-Allegany crude 10 cents per barrel and Pure Oil Co. reduced Cabin Creek, Kelly's Creek and Bradford Hollow crude in West Virginia to $2 per barrel.

HOUSTON GEOLOGISTS' TRIP

HOUSTON, Tex., Nov. 3.—The first of a series of field trips planned by the Houston Geological Society was made November 1 when a party of 50 geologists, their families and other guests, visited the Raccoon Bend Field of Austin County and the Clay Creek Field of Washington County.

At Raccoon Bend, which is being developed by the Humble Oil & Refining Co., the party was shown over the field by L. P. Teas of the Humble, and at Clay Creek, a Sun Oil Co. development, the party was under W. B. Ferguson of that company.

Among the geologists on the trip were Victor E. Lieb, J. Bryan Eby, George Bevier, O. F. Sundt, B. G. Von Roeder, F. E. Jackson, W. B. Ferguson, J. B. Boyd, E. V. Hanson, H. C. Warren, W. G. Ginther, H. S. Kemp, Donald Barton, D'Arcy Cashin, John Best, F. W. Rolshauser, C. L. Baker, Grady Kirby, O. S. Lester, A. G. Wolf, Karl Yount and Miss Alva S. Ellison.

RUSSIAN OIL TO EGYPT

Bucharest petroleum companies have received telegraphic reports from Egypt to the effect that offers of large amounts of Russian oil have been made there.

Addison H. Beale, Visiting in Chicago, Dies in Son's Home

PITTSBURGH, Pa., Nov. 1.—Addison H. Beale of this city, president of the A. M. Byers Co., and one of the most widely known executives in the steel and iron trade, died suddenly in Chicago on Tuesday, October 28.

Mr. Beale became ill in the offices of H. A. Brassert & Co., engineers for his firm. He was removed to the home of his son, Warren Beale, in that city, and passed away a short time later.

Mr. Beale had been a prominent figure in the steel trade. He was president of the A. M. Byers Co. for five years, and previously had been associated with the American Sheet & Tin Plate Co., Eastern Steel Co., Lebanon Iron Co. and the Steel & Tube Co. of America.

At the time of his death he was president of the Pennsylvania Industries Co., and was on the boards of directors of the Pittsburgh United Corp. and the Sharon Steel Hoop Co.

He was a member of the Duquesne Club, Oakmont Country Club and Pittsburgh Field Club.

He is survived by his widow, his sons, Warren and Joseph Beale, and by his daughter, Mrs. John D. Shaner.

REFINERS REDUCE RUNS DURING NOVEMBER

(Continued from Page 30)

REFINERY OPERATIONS IN KANSAS

(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Runs Nov. 1	Runs Oct. 1
Barnsdall Refineries, Inc., Wichita	4,000	1,200	1,400
Derby Oil Co., Wichita	7,500	5,000	6,000
Eldorado Refining Co., Eldorado	3,500	2,500	3,000
Golden Rule Refining Co., Wichita	1,500	800	1,000
Kanotex Refining Co., Arkansas City	10,000	5,000	3,500
Independent Oil & Gas Co., Kansas City	6,000	5,000	5,000
National Refining Co., Coffeyville	6,500	5,000	4,500
Peerless Oil Refining Co., Chanute	3,000	(*)	(*)
Shell Petroleum Corp., Arkansas City	22,000	14,000	14,000
Sinclair Refining Co., Coffeyville	12,000	9,000	9,000
Sinclair Refining Co., Argentine	9,500	5,000	5,000
Skelly Oil Co., Eldorado	23,000	13,000	14,000
Standard Oil Co. of Kansas, Neodesha	20,000	8,000	8,000
Vickers Petroleum Co., Potwin	3,500	2,000	2,400
White Eagle Oil Corp., Augusta	10,000	7,000	10,000
Total	142,000	82,500	86,800

*Shut down.

REFINERY OPERATIONS IN NORTH LOUISIANA

(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Runs Nov. 1	Runs Oct. 1
Bayou State Refining Co., Hosston	750	550	500
Crystal Oil Refining Corp., Shreveport	14,000	(*)	(*)
Dixie Oil Co., Superior	3,500	3,200	3,200
Louisiana Oil Refining Co., Shreveport, Bossier	24,000	15,000	15,000
Shreveport-El Dorado Pipe Line Co., Shreveport	10,000	7,700	7,740
The Texas Company, Shreveport	7,000	5,000	5,000
Total	59,250	31,000	31,440

*Shut down.

REFINERY OPERATIONS IN NORTH CENTRAL TEXAS

(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Runs Nov. 1	Runs Oct. 1
American Refining Properties, Wichita Falls	6,000	3,300	3,000
Archer Refining Co., Megargel	2,000	500	500
Central Texas Refining Co., Angus	4,000	800	800
Central Texas Refining Co., Minerva	2,000	600	600
Continental Oil Co., Wichita Falls	6,000	3,000	3,300
Dale Oil & Refining Co., Electra	4,000	3,000	3,100
Empire Oil & Refining Co., Gainesville	5,000	3,600	3,600
Falls Refining Co., Wichita Falls	2,000	1,000	1,000
Gulf Refining Co., Fort Worth	10,000	6,000	6,000
Humble Oil & Refining Co., Breckenridge	2,000	1,000	1,000
Humble Oil & Refining Co., Chilton	4,000	1,400	2,000
Humble Oil & Refining Co., Neches	5,000	1,800	1,000
Iowa Park Producing & Refining Co., Iowa Park	2,500	1,500	1,250
LaSalle Petroleum Co., Burkburnett (Noble)	3,500	(*)	(*)
Macmillan Petroleum Co., Isom	8,000	3,200	3,500
Magnolia Petroleum Co., Fort Worth	12,000	4,500	4,000
Magnolia Petroleum Co. (White Eagle plant), Fort Worth	6,000	2,500	2,200
Magnolia Petroleum Co., Corsicana	5,000	4,000	3,800
Marathon Oil Co., Fort Worth	5,000	3,500	3,500
Olney Oil & Refining Co., Olney	2,500	1,600	2,000
Oriental Oil Co., Dallas	5,000	1,000	1,000
Orient Petroleum Co., Wichita Falls	2,500	600	(*)
Panhandle Refining Co., Wichita Falls	5,000	3,700	3,000
Petroleum Refractionating Co., Pampa	5,000	5,000	5,000
Phillips Petroleum Co., Isom	15,000	11,000	11,000
Primrose Refining Co., Wichita Falls	2,500	2,000	2,000
Simms Oil Co., West Dallas	5,000	2,500	3,000
Southland Refining Co., Olney	1,000	300	500
Star Refining & Producing Co., Fort Worth	1,800	600	600
Superior Refining Co., Tiffin	2,000	(*)	(*)
Tarrant Petroleum Co., Grand Prairie	2,500	(*)	(*)
Taylor Refining Co., Taylor	6,000	2,000	(*)
Taxman Refining Co., Wichita Falls	2,500	2,500	2,500
The Texas Company, Dallas	16,000	16,000	16,000
The Texas Company, Amarillo	4,000	4,000	4,000
Tidal Western Refining Co., Burkburnett	3,000	2,000	2,000
Texas Pacific Coal & Oil Co., Fort Worth	3,000	2,000	1,800
Texas Pacific Coal & Oil Co., Caddo	1,200	800	1,000
Waggoner Refining Co., Electra	3,400	1,300	2,500
Wilcox Oil & Gas Co. (Pampa Refining Co.), Pampa	4,000	2,500	3,000
Total	186,900	106,600	105,030

*Shut down.

BUREAU OF MINES STATISTICS FOR MONTH OF SEPTEMBER

According to reports received by the Bureau of Mines, Department of Commerce, the production of crude petroleum in the United States during September, 1930, amounted to 70,977,000 bbls., a daily average of 2,366,000 bbls. This represents a decline in daily average from the previous month of 49,000 bbls. and a decrease from the daily average of September, 1929, of 549,000 bbls., or 19 per cent. It also marks the first month since February, 1928, in which the daily average output of crude has fallen below the 2,400,000-bbl. mark.

Daily average production in Texas, the leading producing state, fell from 819,000 bbls. in August to 766,000 bbls. in September. Daily average output in California and Oklahoma, the second and third ranking states, was practically unchanged from a month ago. Daily production in the Oklahoma City Field increased 10,000 bbls. in September, but the output in the rest of the state fell off a comparable amount. The curtailment in the Hobbs Field was continued through September and the daily average output was practically unchanged from August.

Total crude stocks east of California on September 30 amounted to 376,975,000 bbls., a decline of nearly 5,000,000 bbls. from the previous month. Stocks of both light and heavy crudes in California showed a small decline during the month.

The continued curtailment of crude production and the indicated increase in gasoline consumption in September were reflected in total stocks of all oils. These stocks on September 30 amounted to 678,508,000 bbls., which represents the material reduction of 7,349,000 bbls. from stocks on hand September 1. A year ago total stocks of all oils increased 5,498,000 bbls. during September.

Refined Products

Runs to stills of crude petroleum amounted to 75,950,000 bbls., of which 71,042,000 bbls. was domestic crude and 4,908,000 bbls. was foreign crude. These figures indicate a curtailment in crude processed of 10 per cent from a year ago.

Daily average motor fuel production amounted to 1,231,000 bbls., a small gain over August. The indicated domestic demand for gasoline totaled 37,823,000 bbls., a daily average of 1,261,000 bbls. This not only represents an increase over a year ago of 9 per cent, but exceeds the indicated domestic demand for August, which is normally the month of maximum consumption. Exports of gasoline amounted to 4,029,000 bbls., a material decline from the previous month. Stocks of motor fuel on hand September 30 amounted to 38,254,000 bbls. This figure indicates a withdrawal from stocks during September of 3,370,000 bbls., which leaves these stocks approximately 5,000,000 bbls. in excess of a year ago. At the current rate of total demand, the motor fuel stocks on hand at the end of September represent 27 days' supply as compared with 29 days' supply on hand a month ago and 25 days' supply on hand a year ago.

The indicated domestic demand for kerosene increased in September but remained well below the total of a year ago. Both the domestic and export demand for wax increased and stocks showed a material decline for the first time since November, 1929.

The refinery data of this report were compiled from schedules of 351 refineries with an aggregate daily recorded crude-oil capacity of 3,662,250 bbls., covering, as far as the Bureau is able to determine, all operations during September, 1930. These refineries operated at 69 per cent of their recorded capacity, given above, as compared with 350 refineries operating at 70 per cent of their capacity in August.

CALIFORNIA GASOLINE MARKET LACKS VIGOR

LOS ANGELES, Calif., Nov. 3.—The gasoline market in California was a little weaker during the past week although this weakness was not manifested in lower prices to any great extent. Refiners are watching the local market very closely in an effort to keep Pacific Coast prices stabilized as far as possible and, although considerable quantities of crude and refined oils are being absorbed by larger marketers in an effort to prevent price cuts, the success of this program is by no means assured. If the major companies sit tight, the existing price structure may remain undisturbed during the winter months, but this will require extreme care to prevent Pacific Coast markets from sympathetically reflecting the substantial price cuts made in the East.

The program instituted several months ago by California refiners to limit refinery runs to normal requirements is still being respected and this policy has undoubtedly had a very stabilizing affect. During the month of September California refiners reduced crude oil runs to stills 16,381 bbls. per day, running 543,964 bbls. per day to stills in September, as compared with 560,345 bbls. daily in August. This reduction in the amount of crude oil charged to stills was a contributing factor to the decrease of 353,-

WILD WELL BLOWING OIL AND GAS NEAR BUSINESS DISTRICT OF OKLAHOMA CITY

Morgan Royalty Co.'s No. 1 Stout in left foreground with business district to the back and the

362 bbls. in gasoline and engine distillate stocks. Gasoline production, which aggregated 246,531 bbls. per day in September was 2,331 bbls. below the 244,200 bbls. produced in the preceding month, August. One of the most interesting features in connection with California refinery operations during September was the increase in the production of cracked gasoline. During September refiners produced 51,583 bbls. of cracked gasoline, as compared with 47,018 bbls. daily in August, a gain of 4,565 bbls. per day. During the same period, straightrun gasoline declined from 196,511 bbls. daily in August to 194,180 bbls. in September.

Gasoline sales in California for the third quarter of 1930 aggregated 357,199,256 gallons, as compared with 334,418,751 gallons in the third quarter of last year, and 347,735,445 gallons in the second quarter of 1930. Outstanding is the record of Wilshire Oil Co., whose sales in the third quarter of 1930 amounted to 22,022,356 gallons, as compared with sales of the second quarter of 12,093,811, and 15,614,459 gallons in the third quarter of 1929. The Associated also made a new gain, current sales of 33,532,743 gallons comparing favorably with 27,235,962 gallons in the second quarter, and 24,733,750 gallons in the third quarter of last year. Standard and Shell retained the lead in gallonage and, although both showed a loss over sales in the preceding quarter, current business was in excess of sales for the third quarter of 1929. The Union showed a slight loss from sales in the second quarter of 1929 but sold 4,618,188 gallons more in the third quarter of 1930 than in the similar period of 1929.

ACETYLENE ASSOCIATION TO HAVE BUSY MEETING

Discussions covering various departments of welding will mark the three days of the International Acetylene Association's thirty-first annual convention to be held November 12, 13 and 14 in the Congress Hotel, Chicago. The address of welcome at the opening of the convention Wednesday forenoon, November 12, will be delivered by Col. Robert Randolph, president of the Chicago Association of Commerce. The response will be made by Henry Booth, Shawinigan Products Corp., New York. C. A. McCune, director of research for the Welding Engineering & Research Corp., New York, will deliver the president's address. The keynote address will be delivered by Marc Rose, editor, The Business Week.

Department sessions will be held as follows: Wednesday afternoon, metal working industries session; chairman, President C. A. McCune. Thursday forenoon, building session; chairman, Robert Knight, deputy building commissioner of Chicago. Thursday afternoon, building piping session; chairman, R. E. Gilmore, vice president, Association of Consulting Engineers, Chicago. Friday forenoon, transportation session; chairman, Homer E. Gannett, operating department Chicago, Burlington & Quincy Railroad, Chicago. Friday afternoon, public utilities session; chairman, George C. Baldwin, Public Service Co. of Northern Illinois. At the Service Co. of Northern Illinois. At the public utilities session G. O. Carter, consulting engineer of the Linde Air Products Co., New York, will discuss "Success of Oxy-Acetylene Welded Pipe Lines," and L. A. Kirsch, gas engineer of the Midland United Co., Chicago, will discuss "Oxy-Acetylene Welding in Local Gas Transmission and Distribution."

GULF COAST REFINERY MARKET IS UNSETTLED

HOUSTON, Tex., Nov. 4.—Any change in Gulf Coast refinery markets the past week was toward a further unsettled situation. Additional reductions in crude prices of Gulf Coast fields by the Gulf Pipe Line Co. establishing two market structures created an uncertain tone which was reflected sharply in the refinery market.

At the opening of the week there were no material changes in posted quotations of any products, but it freely was admitted the posted quotations were representative of actual market conditions. The greatest uncertainty was in pale and red oils, which were being offered from some sources on a wide price range depending on local and individual conditions with no close adherence to official posted schedules of the refiners.

This competitive price situation was in the face of reports that October business reflected an increase in the volume of business over that of September.

Smaller refiners and marketers have virtually withdrawn from the spot market of motor fuels. The movement of contract material, based on North Texas quotations, at prices substantially under 7 cents has forced smaller refiners not desiring to do business below that figure to quit quoting for spot sale. A number of refiners have thus withdrawn from the picture.

Fuel oil is very weak but as far as actual quotations were concerned at the opening of the week there was no material change in the market. On the other hand there is so little fuel moving outside established outlets that it is hard to determine the actual market. It is known, however, that sellers have quoted freely as low as 62½ cents for cargo lots although holding to $1 flat for bunkering.

HOMTY AND THREATENING ENTIRE AREA FROM DESTRUCTION BY FIRE

at upper right. A spray of oil from the well was blown as far as the capitol.

—Photo by Ward and Banks, 306½ W. Grand Avenue, Oklahoma City, Okla.

Late Fields

(Continued from Page 40)

four hours. It extends production nearly a quarter of a mile southwest of the Roth & Faurot discovery well.

The Atlantic Oil Producing Co.'s No. 1 Figger, NE cor., Section 1-23-12w, Stafford County, is the first location to be announced since the Midwest Exploration Co.'s wildcat well found commercial production in Section 36-22-11w, Stafford County.

Alco Royalty Co.'s No. 1 Kenney, SE cor., Section 16-22-7w, northern Reno County wildcat, found a showing of black oil in chat at 3,540 feet. The test was drilling deeper at 3,570 feet with water showing.

Mid-Kansas Oil & Gas Co.'s No. 1 Garrett, SW cor. NE, Section 30-19-1w, in the Ritz area in McPherson County, was drilled 4 feet deeper into the Viola horizon to a total depth of 3,414 feet, swabbing 140 bbls. the first hour and 95 bbls. the next 45 minutes. The well is the first deep producer in the Ritz area.

Slick, Pryor & Lockhart, Darby Petroleum Corp. and others' No. 1 Heiken, NW cor., Section 25-17-10w, Ellsworth County, wildcat is being tested. It swabbed 87 bbls. an hour, and 135 bbls. in an hour and a half. The oil was found in the Silicious lime at 3,231-43 feet.

E. B. Shawver's No. 1 fee, SE cor. SW SE, Section 18-27-2, in the Eastborough Pool, Sedgwick County, was swabbing 40 bbls. an hour from the chat at 2,959-60 feet. It extends production one location to the west in the northern part of the pool.

EAST CENTRAL TEXAS

FORT WORTH, Tex., Nov. 4.—Arkansas Fuel Oil Co.'s No. 1 Worrell, in the Juan Ximenes Survey, offsetting the Joiner discovery well, Rusk County, cored from 3,530-47 feet showing broken chalk and sandy shale from 3,547-48 feet showing a saturated sand. There was no Eagleford shale in the test.

SOUTH DAKOTA

The Gypsy Oil Co. is moving in material for a deep wildcat test near Creighton, S. Dak. The test will be No. 1 Hunter, C NE SW, Section 28-3n-16e, Pennington County, in the western part of the State, near the Black Hills. The company has a block of 77,000 acres in the vicinity. It is the company's first attempt to drill in the State.

MISSISSIPPI

JACKSON, Miss., Nov. 4.—Pearl River Oil & Gas Co.'s No. 2 Pate, Section 12-5-1e, made 50,000,000 feet of gas from 2,400 feet. It is in the SW SE of the section and makes a total of 24 producers with over 700,000,000 feet total open flow for the Jackson gas field.

ATTEND E. N. BARNES FUNERAL

NEW YORK, Nov. 3.—Elbert Norton Barnes, for 38 years associated with the domestic trade department of the Standard Oil Company of New York, died at his home in East Orange, N. J., October 27, following a stroke.

Mr. Barnes, who was 65 years of age, had been retired since January 1, this year.

Entering the employ of the domestic trade department of the old New York company in 1892, Mr. Barnes spent his entire business career at 26 Broadway headquarters. His first position with the company was as stenographer, and he worked up through various positions until he became assistant manager, in which post he became widely known in domestic marketing circles.

Mr. Barnes suffered a stroke in April last year, and was on leave of absence until the close of the year, being retired at the beginning of the current year. He is survived by his widow.

Many oil men attended funeral services for Mr. Barnes, which were held in East Orange, October 29.

DECLINE IN FUEL OIL SUPPLY AS GASOLINE RECOVERY INCREASES

NEW YORK, Nov. 3.—Conservation of oil, one of the greatest natural resources of the United States, is an imperative national duty. Any great delay now will only multiply the difficulties.

This is one of the major conclusions of an extensive report on "Oil Conservation and Fuel Oil Supply," just completed and published by the National Industrial Conference Board. Coming as it does, at a time when the public is keenly interested in the problems of oil and its products and when leaders in the economic field of fuel and power production are co-operating in effecting oil conservation, the report will be of timely aid in determining many of the complicated questions involved.

The report is the result of more than a year's research and analysis by the staff of the conference board, aided by the following members of an advisory committee.

R. C. Holmes, president, The Texas Company, chairman; Walter Barnum, president, Pacific Coast Co.; C. E. Bockus, president, National Coal Assosiation; F. R. Coates, of Henry L. Doherty & Co.; Craig F. Cullinan, president, American Republics Corp., all of New York; Henry M. Dawes, president, Pure Oil Co., Chicago; W. S. Farish, president, Humble Oil & Refining Co., Houston, Tex.; W. C. Franklin, vice president, Tidal Companies, Tulsa, Okla.; W. M. Irish, president, Atlantic Refining Co., Philadelphia, Pa.; K. R. Kingsbury, president, Standard Oil Oil Co. of California, San Francisco, Calif.; C. C. Ross, commander, United States Navy, fuel oil testing plant, Philadelphia, Pa.; Walter C. Teagle, president, Standard Oil Co. of New Jersey, New York; S. D. Warriner, president, Lehigh Coal & Navigation Co., Philadelphia, Pa.

Conditions Favorable

"Present conditions are favorable," states the report, "for undertaking an oil conservation program. It is evident that the difficulties in the way of successful application of conservation measures will grow with delay. The larger the volume of crude oil production and the higher the level of output to which consumption is allowed to adjust itself, the more serious will be the consequences of a future decline in supply, and the greater the difficulties of readjusting consumption on the lower level of output."

Since 1924, the Federal Oil Conservation Board, appointed by President Coolidge, has been at work formulating the problems involved in oil conservation and in bringing about co-operative efforts between governmental agencies and the industry itself. In 1929 the discussion of an oil conservation program between representatives of the Government and the leading oil interests was based on the assumption that the crude oil supply should be maintained at the 1928 level of production for several years to come. This meant, in round figures, approximately 900,000,000 bbls. of gross domestic production in the United States, supplemented by a net import of about 60,000,000 bbls.

Three Main Issues

The conservation program for crude oil is based on three main propositions, namely, that the supply of crude oil should be considered as limited from the viewpoint of future needs, that motor fuel and lubricants are the most essential oil products, since fuel oils could be more readily replaced by coal, and that a program involving an increase in the percentage of gasoline recovered from crude oil from the present 39 per cent to 60 per cent is feasible and would result in a corresponding decline in the percentage of fuel oil produced.

Thus, if the annual increase of about 35,000,000 bbls. a year in gasoline consumption should continue and if this increase should be entirely secured by improved cracking operations, a 60 per cent gasoline output would be reached in from five to six years, with a corresponding decline of about 50 per cent in the present output of fuel oils.

The effect of a possible decline in the output of fuel oil is pointed out by the conference board as an indication of the necessity for prompt action in adopting a conservation plan. It is shown that fuel oil consumption developed in the United States earlier than in any other region of the world except the interior of Russia. Its longer use has more firmly entrenched it in the market and has led to its more varied uses, so that any decrease in supply would cause more difficulties of readjustment in this country than in any other region.

Although the use of fuel oil by marine, railroad, gas manufacture, and general manufacturing groups has reached an almost stationary point, and its consumption by oil companies and public utility electric plants has declined, this has been more than counterbalanced by a rapid expansion in the use of oil for commercial and domestic heating in the North Atlantic and Middle Western states. The year 1928 shows a total increase in domestic consumptoin of 13,000,000 bbls. over the two preceding years, and 1929 will probably show a similar increase.

Effect of a Decline

A decline of 50 per cent in the fuel oil supply in the United States, based on the situation in 1928, would mean a decrease from about 400,000,000 bbls. to about 200,000,000 bbls. Of the 400,000,000 bbls. produced in 1928, 360,000,000 represent domestic consumption and 40,000,000 the net export. The decrease in domestic consumption, to be replaced by other sources of energy, would therefore be about 160,000,000 bbls., equivalent to about 45,000,000 short tons of coal. The larger part of this replacement would be by coal and to a lesser extent by gasoline, natural gas, and increased water power development.

The total replacement would be modified to an appreciable extent by increased efficiency in the use of fuel oil by the more persistent users, such as the marine groups, which use about 25 per cent of the total United States output. The number of motor ships equipped with Diesel engines, which reduce the amount of oil used by about two-thirds, is rapidly increasing.

Changed Status of Fuel

The changed status of fuel oil, from that of an unavoidable by-product to that of a potential source of gasoline, has brought about a situation in which, if an oversupply of crude oil exists, the production of a larger percentage of gasoline from crude oil by new methods will be retarded, and the supply of fuel oil will be increased. The oversupply of crude oil in 1929 led to an increased supply of available fuel oil and to an estimated average wholesale selling price of 39 cents a barrel in the United States, the lowest average price since 1916.

"The present temporary oversupply of crude oil should not be regarded as any guarantee of permanent increase in fuel oil supply," states the conference board, "since the rapid expansion in total oil consumption during the last few years has attained such large proportions as to accentuate apprehension in regard to the permanence of the supply. With the continued rapid expansion in the demand for motor fuel and with the ability to convert a much larger percentage of crude oil into gasoline, the oil industry now looks forward to a larger permanent supply of raw material and to the desirability of reserving it for its most efficient uses over a longer period of time. The present trend of the oil conservation movement proposes to accomplish this result through co-operation."

NEW TANKER

NEW YORK, Nov. 3.—The Anglo-American Oil Co. tanker "Appalachee," latest addition to the extensive fleet of Standard Oil Co. (N. J.) subsidiary companies, was launched early this month from the Hebburn yards of the Palmers Shipbuilding & Iron Co., Ltd., in Great Britain.

DARST CREEK FIELD PRORATION SCHEDULE

AUSTIN, Tex., Nov. 1.—The Railroad Commission of Texas finds that oil is being produced in the Darst Creek field, Guadalupe County, in quantities beyond the market demand, "which is resulting in the storage of oil above ground in large quantities with consequent loss of the lighter fractions by evaporation and the deterioration of that remaining after evaporation and the actual physical waste of oil and the creation of unnecessary fire hazards, to the injury of the producers and royalty owners and of public interest; and that oil is being produced in said field at such a rate and under such conditions as is resulting in the too rapid depletion of gas pressures and the encroachment of water into the oil producing formation, which in turn is reresulting in the trapping of oil and the waste of same underground and is thus materially reducing the ultimate quantity of oil to be recovered in said field; and it further appearing that unless action be taken by the Commission to reduce the quantity of oil being daily produced and to restrict the production from the several producing leases or properties therein on a ratable basis, quantities of oil in said field will be run to storage with resulting waste from evaporation, excessive loss of gas pressures will result, thereby reducing the ultimate recovery of oil from said field and hastening the encroachment of water into the producing formation and the trapping off of oil therein in such a way that it can not be recovered, and unequal withdrawals of oil will result, causing the rapid depletion of gas energy in localized areas, the coning and channeling of water into the producing formation and the trapping off of oil beyond recovery, all of which will result in the serious waste of oil and gas; and that such waste of oil and gas may be prevented and the conservation of both oil and gas furthered by limiting the production of said field for the period hereinafter set forth to an aggregate quantity of 30,000 bbls. per day and by limiting the production from each producing lease or property on a ratable basis, considering the potential production of each lease or property and the aggressive potential production of the field."

Under the new schedule the percentage of the potential that can be run is .17505, which will permit the Louisiana Oil Refining Co. to run approximately 2,275 bbls. daily from properties the company purchased from United North and South Development Co. under contract to run not less than 4,500 bbls. daily. Until now this contract has been taken into consideration in arriving at an allowable for the field, but when the potential ran up to more than 171,000 bbls. and the allowable on that basis approached 60,000 bbls. daily the Railroad Commission was appealed to in an effort to have the allowable reduced to what was thought a more equitable figure.

REFINERY MARKET IS IN BETTER CONDITION

(Continued from Page 28)

high gravity, low cold-test material, is moving at a better rate, but the heaviness of the entire fuel market holds the price of these grades to their present level.

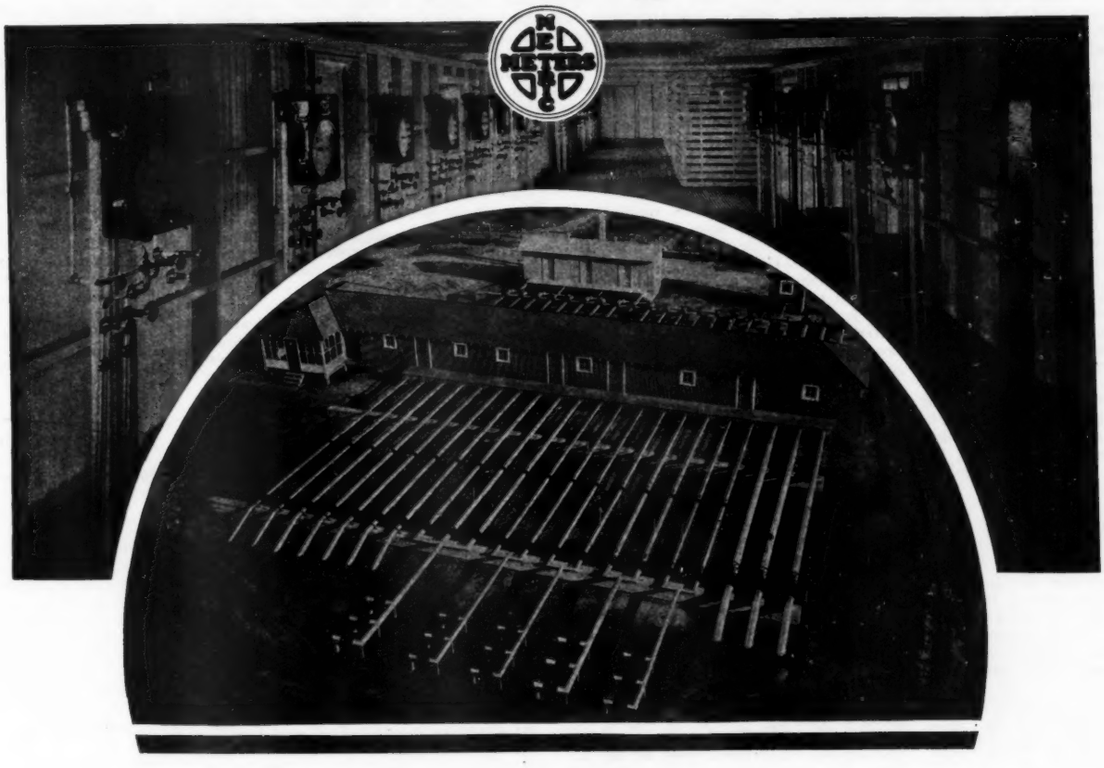
Lubricants and Wax

The slow demand for motor oils and bright stocks, and the reduction in Pennsylvania crude prices of 15 cents during the week, did not offer an optimistic outlook for the immediate future of the lub oil market. Motor oil prices were being shaded for orders in hand and bright stock prices were also shaded, especially on the higher cold test material. Wax prices remained unchanged.

FRED F. FULLER DIES

DALLAS, Tex., Nov. 1.—Fred F. Fuller, 37-year-old attorney of the Atlantic Oil Producing Co. of Dallas and former resident of Shreveport, La., died early Saturday morning after an illness of six weeks. Mr. Fuller was born at Hope, Ark. He came to Dallas seven years ago from Shreveport.

A Record Capacity for measurement by orifice



250 million Cubic Feet at 250 Pounds Pressure —feeding into a single line

A battery of twenty-one Westcott Orifice Meters for the accurate registration of up to 250 million cubic feet of gas daily at 250 lbs. pressure has recently been installed for the Arkansas Natural Gas Corporation at the Munce Metering Station, located near Sterlington, La. The "straight run" of the installation is 125 feet from inlet gate to outlet gate with two sets of straightening vanes in all runs.

AMERICAN METER CO. MEASUREMENT ENGINEERS CUBIC FEET

The equipment represents to date, we believe, the world's largest capacity installation of orifice meters to measure gas feeding into a single pipe line. Two sets of Westcott Orifice Meters are in use at this station, ranging in size from 6 to 12 inches. One set measures the incoming gas from seven selling Companies in the Monroe-Richland field: The United Carbon Company; Southern Carbon Company; the Interstate Natural Gas Company; the Hope Producing Company; Dixie Gulf Gas Company; The Palmer Corporation, and the Industrial Gas Company.

Gravity is checked every 15 days; temperature correction is made daily. Mr. W. R. McLaughlin, Superintendent of Gas Measurements, says, "We check regularly less than ½ of 1% at all times."

METRIC METAL WORKS
ERIE, PENNSYLVANIA
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Of Interest to Sales Departments

FIND WOOLEN CLOTHING BEST FIRE PROTECTION

The Shell Petroleum Corp., Wood River, Ill., has furnished the following data on flammability tests with cotton and woolen goods which favors the use of wool for refinery workers.

When suspended a few inches above a flame, clean cotton cloth shirting and overall material ignite readily while clean woolen cloth only chars. When thrust into the flame woolen cloth ignites more slowly than cotton, and when withdrawn the woolen cloth ceases to burn while the cotton burns readily.

Woolen suiting material absorbs oil (pressure distillate) by capillary action more rapidly than cotton shirting material and will absorb a larger quantity of oil (about 140 per cent for wool and 55 per cent for cotton). Either woolen or cotton cloth is very easily ignited when saturated with a volatile petroleum oil and no difference between the two materials could be detected in this case.

When 15 per cent of pressure distillate is distributed uniformly over clean woolen and cotton cloth, respectively, both can be ignited very easily. After standing one-half hour, however, the cotton cloth can be ignited more easily than the woolen cloth. When 30 per cent by weight of pressure distillate is used, exposure to the air for one hour is required to obtain a difference in the ease of ignition, the cotton then being more easily ignited.

(Continued on Page 146)

GASOLINE FROM TAR

CHATHAN, Ontario, Nov. 1.—Canadian tar sand operators are interested in the reported discovery in Great Britain of a new process for extracting gasoline from tar. While primarily applicable to coal tar, the process can, it is stated, be adapted to the McMurray bitumens.

The process, discovered by a British inventor, R. E. Goldsborough, has been patented. It was worked out following the accidental admixture of tar with residual oils. The mixture showed such curious reactions that intensive analysis was undertaken, and the new gasoline process developed as a result. In the process, complete details of which have not yet been disclosed, the tar is treated with steam at high temperatures. In addition to gasoline, motor spirit, kerosene and heavy oils are produced; and it is claimed gasoline can be produced from British coal tars at a cost of 4 cents a gallon.

SKY WRITING IN CRUDE OIL

Use of crude oil in sky writing promises to become popular with advertisers. The oil is ejected onto a heated steel plate through a carburetor-like device. The vaporized oil makes a dense grayish cloud when it strikes the cold air. Crude oil has taken the place of other chemicals because it is simpler to use and makes a heavier cloud that is less likely to be destroyed by wind.

HISTORIC REFINERY REBUILT

LOS ANGELES, Calif., Nov. 1.—The Standard Oil Co. of California has completed restoration in the old Newhall oil field in Pico Canyon of the State's first oil refinery operated on a commercial scale. The refinery, originally built in 1876 a short distance from the state highway near Newhall, was in use several years. The historic old plant is in the vicinity of the California Star Oil Works Co.'s No. 4, which has been producing for the past 54 years and is asserted to be the oldest active well in the State.

MISCELLANEOUS OIL PRODUCTS OF U. S. REFINERIES IN 1929

The total production of "other finished products" at petroleum refineries, including all miscellaneous products other than gasoline, kerosene, gas oil and fuel oil, lubricants, wax, coke and asphalt, amounted in 1929 to 9,924,000 bbls. as compared with 9,402,000 bbls. in 1928, according to the United States Bureau of Mines, Department of Commerce. The total production of the miscellaneous products is reported monthly, but the Bureau of Mines has for the past two years made an annual canvass to determine the identity and quantitative importance of the various products included in this group.

As was the case in 1928, road oil was the most important item reported under "Miscellaneous" in 1929. The production of road oil for the latter year amounted to 3,281,000 bbls. as compared with 2,972,000 bbls. in 1928. These figures do not include 1,000,000 bbls. or more of intermediate products between road oil and light asphalt fluxes and which are classed as road oil in the bureau's annual chapter, "Asphalt and Related Bitumens," but in Refinery Statistics are included under asphalt. The most important road-oil producing areas were the States of Indiana and Illinois, California, and the East Coast district.

The second most important item was refinery gas, the production of which, on the basis of equivalent oil, amounted to 1,884,000 bbls. in 1929. A portion of this refinery gas was sold, either directly or through intermediate distributors, to industrial plants or used in the enrichment of manufactured gas, but the larger portion was burned as fuel under boilers and stills.

The production of absorption oils at refineries in 1929 amounted to 329,000 bbls. as compared with 269,000 bbls. in 1928, an increase of 22 per cent. Absorption oils are used by the natural gasoline industry as an integral part of the absorption process and the material increase in output in 1929 undoubtedly had some relation to the substantial gain in total capacity of the natural gasoline plants during that year. The most important absorption-oil producing areas were California, Oklahoma, and Texas. These were also the leading natural gasoline producing states.

Petrolatum is one of the most important of the minor products of petroleum. It is used in the manufacture of vaselines and as a base for various salves and ointments. The production of petrolatum at petroleum refineries in 1929 amounted to 251,000 bbls. as compared with 312,000 bbls. reported in 1928. These figures are perhaps not a true indication of the production trend in 1929 since large quantities of petrolatum are produced at compounding plants, the operations of which are not covered by the bureau. Petrolatum is a product of paraffin base crudes, hence it is natural that over half of the output of this product is made in the Appalachian district. The East Coast and Indiana-Illinois district were the only other areas which produced material amounts of petroleum.

Another important item under the miscellaneous products was special naphthas. These include two main classes—painter's naphtha, or, as it is variously called, mineral spirits, turpentine substitute and resin solvent, and cleaner's naphtha, or, as it is often called, Stoddard solvent. There is actually considerable difference between the chemical composition of these two classes but, since some companies regard them as one product, they are combined in the table of this report. There was undoubtedly a material increase in the number of cleaning and dyeing establishments in 1929, which is substantiated by the increase in output reported to the bureau.

The remainder of the total for miscellaneous products included a great variety of products, some of which are manufactured by only one or two refineries. One of the most important of these is medicinal oils. Medicinal oils may be segregated into two main classes—the heavy product allied to petrolatum, such as salves, creams and ointments, and the lighter product used both internally and externally.

Another product reported was insecticides or pest destroyer. This is a fairly liquid material usually applied by spraying.

Another class of products classified as miscellaneous by refiners was what is variously called pitches, cable coatings, or sealing compounds. These are related to the asphalts and, as the names imply, are used as protective coatings.

The other products included special waxes, such as floor wax; special lubricants, such as household oil; greases and

(Continued on Page 146)

VENEZUELA SHIPS ALMOST HALF OF CRUDE IMPORTS TO UNITED STATES

Of the 2,593,719 bbls. of crude petroleum imported into the United States during the period from June 18 to June 30, 1930, Venezuela shipped 1,210,509 bbls., almost half of the total quantity, according to figures given out by the Department of Commerce. West Indies led in the imports of gasoline, naphtha and other finished light products, shipping to this country 326,268 bbls. The total imports of these products were 396,651 bbls. in the period named. West Indies led also in fuel oil exports to the United States with 569,934 bbls.

Kerosene imports were from the Dominican Republic only and these amounted to 23,810 bbls. for the June 18-30 period. Only 899 bbls. of lubricating oils, including paraffin oil, were imported, divided as follows: Germany, 514; Belgium, 373; Canada, 12. The 943,752 bbls. (42 gallons to the barrel) of paraffin and paraffin wax imported came from these countries: United Kingdom, 89,600; British India, 712; East Indies, 853,440.

The following table shows the imports of crude petroleum, fuel oil and finished light products, by countries, from June 18 to June 30, the numbers in each column being barrels of 42 gallons:

Countries—	Crude petroleum	Fuel oil, including topped petroleum	Gasoline, naphtha, and other finished light products
Canada	575	11,913	192
Mexico	515,969	38,260	.....
Trinidad and Tobago	.....	.....	70,191
Netherland West Indies	321,915	569,934	326,268
Colombia	483,000	.....	.....
Ecuador	61,751	.....	.....
Venezuela	1,210,509	63,225	.....
Total	2,593,719	683,332	396,651

PLAN TO HAUL GASOLINE FROM SHELBY BY TRUCKS

SHELBY, Mont., Nov. 1.—The Montana Producers Purchasing Co., recently organized by independent oil men in the Sunburst Field, has taken over the property of the Shelby Pipe Line Co. from that field to the refinery here.

Statements by officials of the new purchasing company indicate that the Sunburst and Pondera Fields will be the first to be utilized for crude purchases and that this oil is to be run to the refinery where it will be skimmed and then marketed. It is pointed out that Montana uses much more gasoline than is refined in this State and that Wyoming and California supply the major part of the gasoline consumed. It is held that owing to the shorter distances to be covered from Shelby to marketing points, it is readily feasible to deliver gasoline from the Shelby refinery by truck to any marketing point in the State.

The Power Townsend firm of Townsend, Mont., is now hauling gasoline 60 miles and selling at a profit for 23 cents in the territory covered by the Midwest Refining Co., the Shell interests and other of the larger firms. The latter firms are selling at 25½ cents.

TO PREVENT ADULTERATION

The Peruvian Military Government has issued a decree compelling coloring of kerosene and tractoline (kerosene for tractors), blue and amber, respectively, in order to prevent their use to adulterate gasoline dispensed from filling stations, according to a dispatch received in the Department of Commerce from Commercial Attache Charles H. Cunningham, Lima. The decree, which became effective October 1, provides that every station shall be provided with official measuring devices to enable the buyer to check the amount of gasoline, and directs the municipality to fine the owner of a station in case gasoline shall be proved to contain kerosene or other foreign substance. A second offense is to be followed by confiscation of the station and equipment.

GASOLINE TAX IN NEW YORK

New York City received $475,646.76 and other counties of the State $1,902,587.15 in the sixth distribution of gasoline tax money. The State received as its share $3,196,765.85. The total amount of the apportionment was $5,574,997.79. The amount allotted to the State is 75 per cent of the tax collected during September on the August levy. The sums apportioned to New York City and the other counties of the State represented 5 and 20 per cent respectively of the total for the three months ending September 30. The State's share is deposited in the general fund for state highway construction and maintenance. That portion alloted to New York City is for the reduction of taxes and the amounts given each county are destined for the state aid fund of each, to be used for the construction of the secondary system of traffic arteries.

USING TAR IN HYDROGENATION

Production reports from the I. G. Farbenindustrie state that the synthetic gasoline plant in Merseburg is still producing approximately 2,100 bbls. of gasoline daily by hydrogenating lignite tar. Operation has been converted to hydrogenation of lignite tar almost exclusively. Advantage in this alternative is to eliminate the ash, of which lignite contains a relatively high percentage. Synthetic ammonia and synthetic methanol are other products.

SKILLED SUPERVISION

Guarantees the Quality

OF GULF PRODUCTS

COASTAL AND PARAFFINE CRUDES—
GASOLINE—LUBRICATING OILS—
NAPHTHA—GAS—OILS—
WAX—PETROLEUM COKE—
CYLINDER—ENGINE—CORDAGE

GULF REFINING COMPANY

General Sales Offices: PITTSBURGH, PA.

District Sales Offices

New York, Boston, Philadelphia, Louisville, Atlanta, Houston, New Orleans

—Ocean Terminals—

Boston (Beverly) Mass.
Providence, R. I.
New York Harbor (Bayonne, N. J.)

Jacksonville, Fla.
Port Tampa, Fla.
Mobile (Magazine Point, Ala.)

Philadelphia (Girard Point, Pa.)
Charleston, S. C.
Savannah, Ga.

New Orleans (Gretna, La.)
Port Arthur, Texas.
Galveston, Texas.

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ONLY with a Miller Sand Pump can you obtain MILLER performance because this tool has been designed by men with long records of experience in the Industry and its exclusive features embody their experience and that of thousands of men in fields throughout the world. Built of the finest materials Miller Sand Pumps deliver long service with minimum expense. Write for folder.

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SAND PUMP CO.
General Offices and Plant
SAPULPA, OKLAHOMA

WILDCAT OPERATIONS IN OKLAHOMA

(Continued from Page 42)

GRADY COUNTY

J. V. Bailey's No. 1 Hubbard, C NE NW Sec. 1-10-6w..Shut down 100 ft.

GRANT COUNTY

Bu-Vi-Bar and Amerada's No. 1 Hurst, C SW Sec. 25-26-5w ..... Drlg. 5,645 ft.

GARVIN COUNTY

Nelson et al's No. 1 Strickland, NE NW Sec. 10-4-3w..Abandoned 2,652 ft.

GREER COUNTY

French's No. 1 Murphy, SW NW SE Sec. 23-7-21w..... Drlg. 500 ft.

HARMON COUNTY

Harmon-Tex Oil Co.'s No. 1 Hoadley, NE cor. Sec. 17-4-24w ..... Shut down 2,507 ft.
S. M. Stauffer's No. 1 Castleman, SW NE Sec. 8-4-26w.. Shut down 625 ft.

HARPER COUNTY

Empire's No. 1 Bruce, C NE SW Sec. 12-25-20w..... Shut down 7,195 ft.
Sinclair Oil & Gas Co.'s No. 1 Howell, C SW SW Sec. 14-26-24w ..... 20,000,000 ft. gas 5,350-5,400 ft.; total depth 8,589 ft.; shut down; sprayed 50 bbls. gasoline.

HASKELL COUNTY

I. T. I. O.'s No. 1 Blake, SW NW Sec. 3-10-21..... Drlg. 1,740 ft.
Mid-Western's No. 1 Polster, C NE SE Sec. 33-10-22.... Shut down 4,297 ft.
Holden's No. 1 Phillip, SE cor. Sec. 3-9-18e..... Shut down 1,860 ft.
Marion Oil's No. 1 Sanders, NW NE NW Sec. 10-9-18e Shut down 2,387 ft.
Sanboise Gas' No. 1 Unknown, SW NW SE Sec. 32-9-21e.. Shut down 2,100 ft.

HUGHES COUNTY

Wright et al's No. 1 Ott, SE SW Sec. 15-5-11..... Shut down 1,645 ft.
Canady et al's No. 1 Kanard, NW SW Sec. 23-9-12..... 1,000,000 ft. gas 2,284 ft.; T. D. 4,515 ft.; water; abandoned.
Irwin et al's No. 1 Jones, SE NW Sec. 30-5-10..... Shut down 4,270 ft.; cmtd. 6-in.

KAY COUNTY

Peters & Buckles' No. 1 Hayes, NW NE NW Sec. 24-28-3 ..... Rig.
Mummert Drlg. Co. et al's No. 1 Cormick, C NW SE Sec. 9-27-2 ..... Cellar.
Blackwell Oil & Gas Co.'s No. 1 Harshman, Sec. 2-26-1w. Rig on ground.
Boucher Oil Co.'s No. 1 Jefferson, NE SW Sec. 32-26-1w.. Shut down 1,175 ft.
Alco Royalty Co.'s No. 1 Wolf, SE SW SE Sec. 34-26-2w.. 5,000,000 ft. gas 4,390-4,420 ft.; comp.
Blankinship Petroleum Co.'s No. 1 Hansen, SW NW SW Sec. 17-27-2 ..... Sand 3,590-97 ft.; swabbed 34 bbls. after 40-qt. shot; flowed 34 bbls. and shut down; pumping 30 bbls.

KINGFISHER COUNTY

Prairie and Slick's No. 1 Wright, C NW SW Sec. 23-15-5w ..... Drlg. 5,735 ft.
Galt Brown's No. 1 Wolf, NW SE Sec. 6-16-7w..... Drlg. 6,750 ft.

KIOWA COUNTY

Riley et al's No. 1 Grebb, SW NE Sec. 6-7-16w..... Drlg. 1,135 ft.

LEFLORE COUNTY

Red Bank Oil Co.'s No. 1 fee, SE SW NW Sec. 23-9-24.. Wilcox 6,128-6,298 ft.; plugged back to 5,426 ft. to save gas.

LATTIMER COUNTY

LeFlore Oil Co.'s No. 1 McBee, NW cor. Sec. 3-7-21.... Shut down 3,601 ft.
Mid-Western's No. 1 Morris, C NW SE Sec. 12-6-21..... 1,562-1,650 ft.; dry; drlg. 2,010 ft.
Limestone Oil & Gas Co.'s No. 1 Murray, NE cor. Sec. 25-5-18 ..... Drlg. 2,500 ft.

LINCOLN COUNTY

Atlantic Oil Prod. Co.'s No. 1 Parker, SE NW Sec. 5-14-6 ..... Wilcox 4,595-98 ft.; dry; second Wilcox 4,655-75 ft.; hole full water; shut down.

LOGAN COUNTY

Slick and Ramsey's No. 1 Jones, SE NW Sec. 24-17-2w.. Drlg. 5,231 ft.
Eason Oil Co.'s No. 1 Young, C SW NE SW Sec. 34-17-4w. Sand 4,919-42 ft.; made 870 bbls. 21 hrs. and 485 bbls. 24 hrs. the second 24 hrs.

McINTOSH COUNTY

Patterson, et al's No. 1 Smith, SW cor. NW SE Sec. 32-9-16 ..... Shot 240 qts. 5,446-5,559 ft.; shot went off up hole; fishing.

McCLAIN COUNTY

Prairie's No. 1 Parkinson, SW NW Sec. 22-7-2w..... Drlg. 4,000 ft.

MUSKOGEE COUNTY

Sioux Oil Co.'s No. 1 Unknown, NW SE Sec. 21-11-19.... Shut down 1,011 ft.

NOBLE COUNTY

Barnsdall's No. 1 Miksch, NW SW Sec. 12-21-1..... Drlg. 2,390 ft.
Weaver & Craigin's No. 1 Frederick, C SW NE Sec. 4-24-1w ..... Abandoned 2,660 ft.

OKFUSKEE COUNTY

Henry Oil Co.'s No. 1 Harjo, Sec. 36-12-9..... Shut down 4,127-57 ft.; water.
E. L. Robinson's No. 1 Rice, NW Sec. 2-10-9..... Location.
Shepard et al's No. 1 Neveas, SE NW SW Sec. 3-12-10.. Shut down 3,690 ft.

OKLAHOMA COUNTY

L. C. Hivick's No. 1 Sunset Addition, NW SW NW Sec. 17-11-2w ..... Shut down 5,515 ft.
Mid-Kansas Oil & Gas Co.'s No. 1 Messer, SW cor. Sec. 32-14-3w ..... Wilcox 6,697-6,771 ft.; shot with 90 qts. and 140 qts.; flowed 452 bbls.; cleaning out.
Prairie and Slick's No. 1 Dill, SE NW Sec. 17-13-3w.. Shut down 6,821 ft.; P. B. to 6,530 ft.; bailed water ripped csg. 5,810 ft.; no show; pulling csg. to abandon.
Warr et al's No. 1 Castle, SW NW Sec. 20-11-3w..... Cleaning out 6,440 ft.
J. F. Cuniff, trustee's No. 1 Church Land, NE SW SE Sec. 17-12-4w ..... Drlg. 6,600 ft.
Ryan Consolidated's No. 1 Lawton, NE NW Sec. 3-11-2w.. Shut down 6,903 ft.; plugged back to 6,319 ft.; shot 40 qts.; no show; abandoned.

PAWNEE COUNTY

Morgan & Flynn's No. 1 Freeman, NW cor. Sec. 1-20-5.. Drlg. 3,110 ft.
Sperry et al's No. 1 Mullrap, SE SW Sec. 2-22-5..... Rig.
L. E. Wents' No. 1 G. Lilly, SE SW NE Sec. 26-22-3... Drlg. 2,854 ft.
Flynn & Morgan's No. 1 Jones, SW NE Sec. 22-20-5..... Wilcox 3,794-3,824 ft.; water; shut down.
Cochran et al's No. 1 Green, NE cor. SW Sec. 15-23-5... Rig.

PITTSBURG COUNTY

Apex et al's No. 1 Walker, NW SE Sec. 18-7-13..... Shut down 1,465 ft.
C. Canady's No. 1 Jones, NW cor. Sec. 14-8-14..... Rig.

POTTAWATOMIE COUNTY

The Texas Company's No. 1 Knight, SW SE Sec. 3-8-3... Wilcox 5,395-5,407 ft.; water; to abandon.

ROGER MILLS COUNTY

Bucy & Stone's No. 1 Williams, C SW Sec. 23-12-24w.... Shut down 2,245 ft.
L. C. Hivick's No. 1 Davis, C NW NE Sec. 4-11-26w..... Shut down 2,905 ft.

SEMINOLE COUNTY

Sunray Oil Co.'s No. 1 Sunday, NW SE Sec. 35-5-5..... Location.

WASHITA COUNTY

Petroleum Holdings, Inc.'s No. 1 Musie, NW cor. Sec. 10-9-20w ..... Shut down 280 ft.

WOODS COUNTY

Gypsy-Prairie et al's No. 1 Thompson, SE cor. SW Sec. 10-25-15w ..... Shut down 6,104 ft.
Sinclair Oil & Gas Co.'s No. 1 Showwalter, C SW SW Sec. 33-27-16w ..... T. D. 7,280 ft.; plugged back to 6,730 ft.; shot 30 qts. 6,805-75 ft.; no results; plugged back to 4,885 ft. to test.

WOODWARD COUNTY

Farrond et al's No. 1 Unknown, SE cor. SW SE Sec. 2-22-17w ..... Shut down 1,387 ft.
Prairie Oil & Gas Co. et al's No. 1 Wilbur, NE cor. NW Sec. 22-23-17w ..... Shut down 7,445 ft.

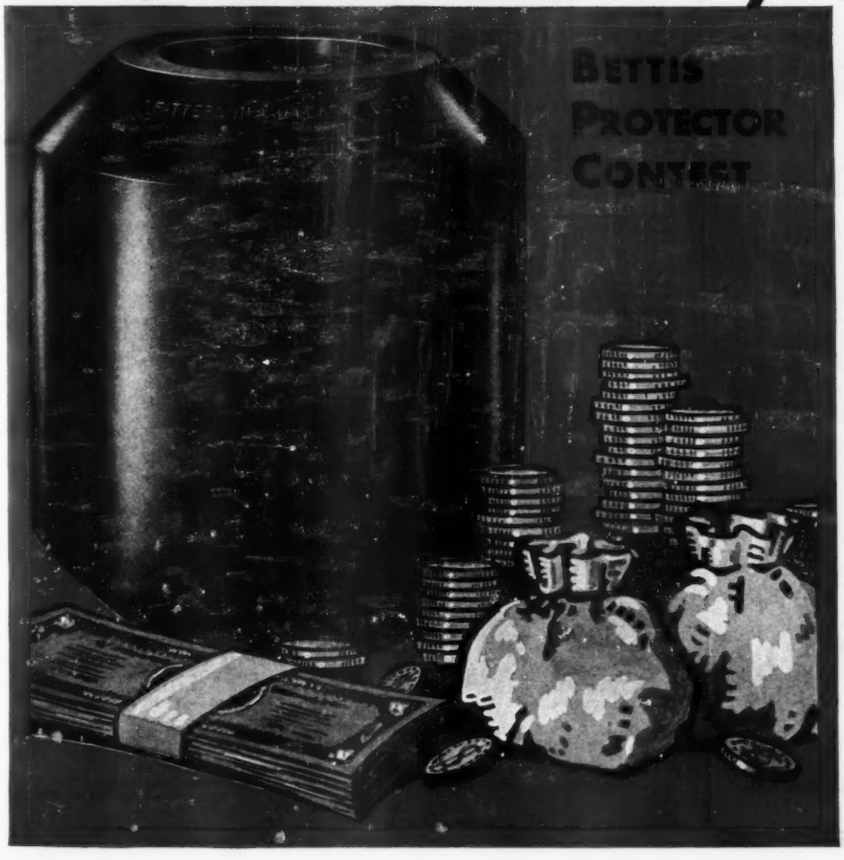
1ST PRIZE	$200.00
2nd PRIZE	$75.00
3rd PRIZE	$25.00
4th PRIZE	$15.00
5th PRIZE	$10.00
NEXT 15	$5.00
TOTAL	$400

RULES OF CONTEST

No letter or statement over 300 words. All statements must be truthful. Contestants must mail letters not later than December 31, 1930. In the event of a tie for any prize same award will be paid to each.

"Best bet yet!"

WRITE A FEW WORDS and you may win CASH



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OKLAHOMA PANHANDLE

CIMARRON COUNTY

Magnolia's No. 1 School Land, C SW NE Sec. 27-5-5.....Drlg. 4,740 ft.

TEXAS COUNTY

Argus Prod. Co.'s No. 1 Fischer, C NW Sec. 29-6-14.....Location.
Three Way Oil Co.'s No. 1 Crane, SW NW Sec. 11-1-18.....Shut down 4,425 ft.
Palo Alto Oil Co.'s No. 1 Graves, NE SW SW Sec. 23-2-18e.....Spudded; shut down.

SOUTHERN OKLAHOMA

ATOKA COUNTY

Brookshire's No. 1 R. W. Rowland, NW NE NE Sec. 18-3s-10.....Shut down 100 ft.

BRYAN COUNTY

Bryan County Oil's No. 1 Childs, NW SE SW Sec. 7-7-10..Shut down 425 ft.
Bush et al's No. 1 Commerce Trust, NE cor. Sec. 35-6s-9.....Shut down 525 ft.
Johnson's et al's No. 1 Ussery, SE SW SE Sec. 14-16s-7e..Shut down 485 ft.
Marshall's No. 2 fee, C SW NW Sec. 26-5s-7.....Shut down; 6-in. csg. 265 ft.

CARTER COUNTY

Campen-Lasater Co.'s No. 1 Anderson, NE cor. SE NE SE Sec. 32-4s-2.....Drlg. by casing 2,590 ft.

COTTON COUNTY

H. J. Dillard's No. 1 McMillan, SE NW Sec. 2-4s-13w...Shut down 2,705 ft.

LOVE COUNTY

Hobbs et al's No. 1 Roberts, NE cor. SW Sec. 20-6s-3w..Shut down 3,130 ft.

MARSHALL COUNTY

Goddard Oil Co.'s No. 1 Marshall, CSL SE NW Sec. 8-6s-6.....T. D. 752 ft.; abandoned.
D. H. Curry's No. 1 Ward, NE SE SW Sec. 15-8s-6....Drlg. 560 ft.
Keiner Oil's No. 1 Barnard, NW NE SW Sec. 28-5s-6e...Drlg. 1,060 ft.
McCrory et al's No. 1 Adams, NE SW SE Sec. 31-7s-6...Rig.
Akers et al's No. 1 Spicer, SW SE SE Sec. 33-5s-7e...Shut down 370 ft.

McCURTAIN COUNTY

Milton et al's No. 1 Vase, SW NW Sec. 26-6s-21.....Shut down 2,287 ft.

STEPHENS COUNTY

Obermyer et al's No. 1 Skelton, NE SW SW Sec. 32-15-7w.....Drlg. 1,375 ft.
R. Southard's No. 1 McKinney, NE cor. Sec. 25-1-8n...Shut down 1,060 ft.

WILDCAT OPERATIONS IN KANSAS

(Continued from Page 44)

ELK COUNTY

Aladdin's No. 1 Donnell, NE SE SW Sec. 26-29-10.....Wilcox 2,386-2,411 ft.; show oil; testing.

ELLSWORTH COUNTY

Aladdin Pet's No. 1 Stoddenberg, C SW Sec. 22-16-10w..Rig on ground.
Milton et al's No. 1 Kester, SE NE Sec. 6-14-9w.....Shut down 830 ft.
Aladdin and Carter Oil Co.'s No. 1 Barecky, C NW Sec. 3-16-10w.....Drlg. 1,390 ft.
Slick et al's No. 1 Hecken, NW cor. Sec. 25-17-10w.....3,000,000 ft. gas 2,980-91 ft.; 3,221-42 ft. 68 bbls. 1 hr., 147 bbls. 2 hrs.; well is shut in.

FORD COUNTY

Swain et al's No. 1 Taylor, C NW Sec. 31-25-24w.....Drlg. 4,200 ft.

GOVE COUNTY

Johnson and Atlantic's No. 1 Wright, SE NE Sec. 11-12-27w.....Drlg. 1,825 ft.
Valerius & Baucher Oil Co.'s No. 1 Todd, NW cor. Sec. 24-13-27w.....Drlg. 4,460-65 ft.; show water; underreaming 6-in. csg.

GRAHAM COUNTY

Gulf Coast Oil Co.'s No. 1 Johnson, C S half Sec. 27-8-25w.Shut down 4,370 ft.

GRANT COUNTY

McKenna et al's No. 1 Sullivan, NE cor. Sec. 12-29-38w..Drlg. 1,600 ft.

GREENWOOD COUNTY

Staats et al's No. 1 Swan, NE NW Sec. 3-25-12.....Rig.
F. Konkay et al's No. 1 Rock, NW NE NE Sec. 7-27-12..Shut down 1,836 ft.

HARPER COUNTY

Atkinson et al's No. 1 Misak, SE cor. Sec. 25-34-6w.....Drlg. 4,635 ft.
Beeler et al's No. 1 Bear, C NE Sec. 21-31-6w.....Shut down 1,830 ft.

KINGMAN COUNTY

Skelly Oil's No. 1 Miles, NE cor. Sec. 30-27-10w.....1,635-40 ft. 2,000,000 ft. gas; at 2,005-20 ft. 6,000,000 ft. gas; underreaming 12-in. csg.

KIOWA COUNTY

Phillips-Prairie's No. 1 Bean, NE SE Sec. 10-30-17w....Drlg. 4,583 ft.
McKenna et al's No. 1 Ralston, C NE Sec. 14-28-20w....Rig.

LYONS COUNTY

Griffith et al's No. 1 King, NW cor. Sec. 8-19-10.....Shut down 910 ft.

MARION COUNTY

Aladdin Pet.'s No. 1 Koch, NW NE Sec. 36-17-3.....Rig.
Midwell's No. 1 La Master, NW cor. Sec. 31-22-4.....Rig on ground.
Magnolia Pet. Co.'s No. 1 Davis, SE NW Sec. 18-21-2....Silicious lime 3,435-43 ft.; water; shut down.
Marshall et al's No. 1 Higgins, NE cor. Sec. 23-19-5.....Rig.

MARSHALL COUNTY

Swicker & Sincox's No. 1 Remple, C N half NW Sec. 22-4-9.....Drlg. 1,295 ft.
Brazier et al's No. 1 Runkel, SE NW Sec. 13-2-6.....Shut down 50 ft.

McPHERSON COUNTY

United Pet. Co.'s No. 1 Kaigi, NE cor. Sec. 20-19-1w ....Location.
Henderson & Holden's No. 1 Sommerfield, NE SW Sec. 23-19-1w.....Rig.
Aladdin Pet.'s No. 1 Rudolph, NW NE Sec. 36-18-3w....Rig.
McPherson Oil Co.'s No. 1 Kuns, SE SW Sec. 11-20-5w...250,000 ft. gas.; comp. 1,020-40 ft.
Slick et al's No. 1 Randell, C SW SW Sec. 35-17-5w....Spudding.
Aladdin Pet. Co.'s No. 1 Larson, C NW Sec. 32-18-4w....Rig on ground.

MORTON COUNTY

Argus Prod. Co.'s No. 1 Plummers, C NE Sec. 11-29-41w.....T. D. 3,005 ft.; plugged back to 2,650 ft.; no prod.; abnd.
Hydraulic Oil Co.'s No. 1 State Land, NW SE Sec. 22-24-43w.....T. D. 3,200 ft.; underreaming 5-in. csg. 3,145 ft.

MORRIS COUNTY

Urschell et al's No. 1 Bersuch, NW SE NW Sec. 10-17-7..Machine.
Pratt et al's No. 1 Whiting, NW SW SW Sec. 34-16-6...Drlg. 2,425 ft.
Hankenson et al's No. 1 Cessman, SW SE Sec. 24-16-9..Rig.
Urschell et all's No. 1 Scott, NE NW Sec. 6-16-6.....Cleaning out 2,420 ft.

OSAGE COUNTY

Riggs & Smith's No. 1 Wood, SE NW Sec. 21-14-15.....Shut down 410 ft.

PAWNEE COUNTY

Phillips' No. 1 Cuthbertson, NE cor. Sec. 27-20-8w.....Drlg. 2,630 ft.

PRATT COUNTY

Wilcox O. & G. Co.'s No. 1 Bappin, SW NW Sec 7-26-15w.....Fishing 4,353-95 ft.; water.

RAWLINS COUNTY

Danciger Oil & Ref.'s No. 1 Unknown, SW cor. Sec. 3-2-35w.....Rig.

RENO COUNTY

Braden et al's No. 1 Thersen, SE NE Sec. 6-22-4w.....Drlg. 2,975 ft.
Alco Royalty's No. 1 Kinney, SE cor. Sec. 16-22-7w.....Drlg. 3,475 ft.
Shell Pet. Corp's No. 1 Popp, NW cor. Sec. 11-25-5w....Chat 3,496-99 ft.; cleaning out.

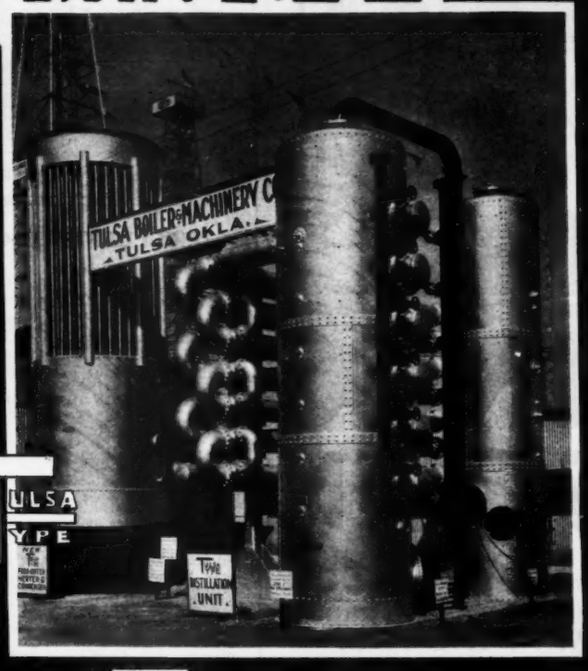
RICE COUNTY

Muth Bros. No. 1 Beyers, NE NW Sec. 21-19-9w.....Spudding.
Jasper & Beschka's No. 1 Cupp, SW NE Sec. 22-18-9w..Drlg. 2,910-20 ft.; 7,500,000 ft. gas; drlg. 2,520 ft.
United Pet. Co.'s No. 1 Willman, NE cor. Sec. 29-21-9w..Drlg. 2,895 ft.
Tatlock et al's No. 1 Ploog, C SW SE Sec. 33-18-9w....Silicious lime 3,252-53 ft.; flowing 30 bbls. an hr. when shut in.

ROOKS COUNTY

Streeter-Stearns' No. 1 Conger, SE NW NE Sec. 16-10-16w.....Shut down 2,615 ft.

Keeping pace



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RUSH COUNTY

Prairie et al's No. 1 Lecker, NW SW SW Sec. 5-16-18w..Drlg. 3,550 ft.; show oil at 3,337-50 ft. which exhausted; drlg. 3,676 ft.
Syndicate Oil Co.'s No. 1 Lannen, C SW Sec. 11-18-16w..Drlg. 345 ft.

RUSSELL COUNTY

Empire Oil & Ref. Co.'s No. 1 Sherwood, SE NW NW Sec. 21-14-13w .....Drlg. 2,580 ft.
Austin Drlg. Co.'s No. 1 Rochfellow, SE cor. Sec. 6-13-12w .....Shut down 2,710 ft.
Gilbreath et al's No. 1 Bratton, C NE Sec. 33-11-13w....Shut down 2,155 ft.

SEDGWICK COUNTY

Streeter & Stearn's No. 1 Tobin, SW SE NE Sec. 5-22-2..Spudded and shut down.
Branson et al's No. 1 Kincaid, SE NW NW Sec. 4-28-1..Shut down 50 ft.
Buck et al's No. 1 McNananan, NE NW NW Sec. 2-29-1..Rig.

SALINE COUNTY

Sampson et al's No. 1 Sudenderf, NE SE Sec. 30-14-2w....Rig on ground.
Twin Mounds Oil Co.'s No. 1 Weis, C W half NE NW Sec. 20-13-4w.....Shut down 2,500 ft.

STAFFORD COUNTY

Boucher Oil's No. 1 Groves, NE cor. Sec. 9-22-11w.....Silicious lime 3,542-85 ft.; water; shut down.
Midwest's No. 36 Richardson, SE cor. Sec. 36-22-12w....Sand 3,542-99 ft.; swabbed 75 bbls. 17½ hrs.; estimated at 1,000 bbls. a day; completed.

STEVENS COUNTY

Argus Gas' No. 2 Ponder, C NW Sec. 10-32-38w .....Drlg. 1,000 ft.
Western Prod. Co.'s No. 1 Ponder, C NE Sec. 10-32-38w..Drlg. 2,495 ft.
Western Prod. Co.'s No. 4 Fee, C NE Sec. 6-33-36w.....Drlg. 2,300 ft.
Braden et al's No. 1 Thelsen, SE NE Sec. 6-22-4w.....Rig on ground.
Mangle et al's No. 1 Youngren, C SE NW Sec. 24-32-39w..Comp. 2,653-75 ft.; 1,500,00 ft. gas.
McNabb and Mid-Kansas' No. 1 Rhinehart, C NE Sec. 23-32-39w .....Rig.

SEWARD COUNTY

Liberal Gas' No. 1 C N half NE Sec. 4-35-34w.....Drlg. 2,600 ft.

SUMNER COUNTY

Magnolia Pet. Co.'s No. 1 Shriver, NW SW Sec. 9-23-2 ....Drlg. 3,502 ft.
Disney et al's No. 1 Fay, C E half SE Sec. 14-34-1w....Rig.
Davidson et al's No. 1 Strickland, SW cor. SE Sec. 12-35-1w .....Rig.

WASHINGTON COUNTY

Sincox et al's No. 1 Penwell, NW SE NE Sec. 16-3-3 .....Underreaming 6-in. csg. 1,210 ft.

MISCELLANEOUS OIL PRODUCTS OF U. S. REFINERIES

(Continued from Page 140)

transmission oil, candy maker's oil, wax tailings, and acid oil recovered from acid sludge and probably used as a fuel.

The products so far covered represent the most important of the miscellaneous oils from a quantitative standpoint. There are many other petroleum products made but these were either produced outside of refineries or were reported to the bureau under the general heading of "specialties."

PRODUCTION OF MISCELLANEOUS REFINED PRODUCTS, 1928 AND 1929
(Thousands of barrels of 42 United States gallons)

	Road oils	Refinery gas	Absorption oils	Petrolatum	Furnace oils	Special naphthas	Medicinal oils	Miscellaneous	Total
1928—									
East Coast	560	....	...	30	...	...	27	699	1,316
Appalachian	19	....	...	222	9	...	...	180	430
Indiana, Illinois, Kentucky, etc.	811	71	...	49	141	4	32	1,089	2,197
Oklahoma, Kansas and Missouri	297	....	81	3	123	53	...	13	575
Texas	3	....	36	8	...	3	...	13	63
Louisiana and Arkansas	20	1,125	...	...	13	...	...	1,065	2,223
Rocky Mountain	41	....	...	...	26	5	...	88	160
California	1,221	167	152	...	...	52	28	828	2,438
Total	2,972	1,353	269	312	312	117	87	3,980	9,402
Texas Gulf Coast	....	....	...	7	...	1	...	13	21
Louisiana Gulf Coast	20	1,125	...	...	13	...	...	919	2,077
1929—									
East Coast	571	66	...	23	...	...	18	785	1,463
Appalachian	10	....	4	158	3	2	...	82	259
Indiana, Illinois, Kentucky, etc.	1,041	108	...	51	...	...	20	935	2,155
Oklahoma, Kansas and Missouri	265	57	75	6	158	99	...	49	709
Texas	21	26	73	8	7	...	...	22	157
Louisiana and Arkansas	56	1,431	...	...	13	14	...	1,011	2,525
Rocky Mountain	76	44	...	5	34	5	...	100	264
California	1,241	152	177	...	...	84	26	712	2,392
Total	3,281	1,884	329	251	215	204	64	3,696	9,924
Texas Gulf Coast	21	....	...	8	...	...	...	14	43
Louisiana Gulf Coast	52	1,431	...	...	13	9	...	943	2,448

FIND WOOLEN CLOTHING BEST FIRE PROTECTION

(Continued from Page 140)

With 50 per cent of pressure distillate no difference could be noted in the ease of ignition even after two hours' exposure to the air. These experiments are shown in the following table, which gives the time, in seconds, required to ignite the cloth when suspended about 4 inches above a Fisher burner.

(Time in seconds)

	P.D. added—% by weight of cloth		
	15	30	50
0 hours after adding P.D.:			
Cotton	1	2	0
Wool	3	2	0
½ hour after adding P.D.:			
Cotton	3	4	3
Wool	13	5	6
1 hour after adding P.D.:			
Cotton	4	3	6
Wool	16	9	3
2 hours after adding P.D.:			
Cotton	5	3	2
Wool	15	11	2

From the foregoing it appears that woolen cloth offers considerable protection against flame unless rendered readily flammable by volatile oil. Cotton has a slight advantage in that it absorbs oil less readily and in a smaller degree than wool. When the cloths contain only a small amount of oil and further, when the lighter fractions of the oil have had a short time in which to evaporate (which are conditions more likely to be met with in practice than complete saturation with volatile material) wool offers greater protection than cotton.

SULPHUR BIBLIOGRAPHY

The American Petroleum Institute has published Bibliography of Organic Sulphur Compounds, by Borgstrom, Bost, and Brown. This is a valuable list of original contributions and United States patents which have special reference to sulphur and sulphur compounds in the petroleum industry. Section 1 is a study of the literature conveniently arranged into 34 groups. Each reference is complete with name, place, title, date, and a short description. Section 2 lists the United States patents in which sulphur is used in the petroleum industry, especially in refining, covering the period 1850 to 1930. Copies at $4 each, may be obtained from the Institute, 250 Park Avenue, New York.

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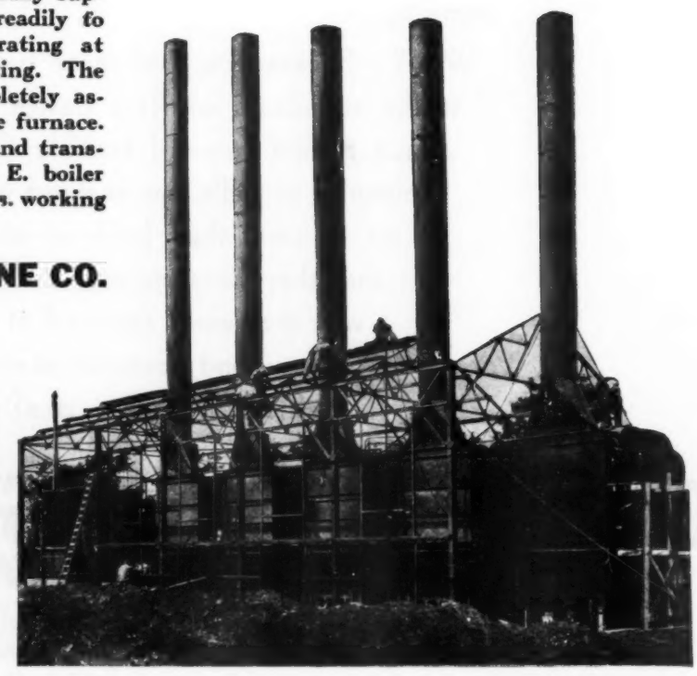

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Shamrock Oil & Gas Co.'s No. 1 P. Sullivan, 330 feet north and west of the SE cor. of the NE of Section 139, Block 3T, T.&N.O.

Oldham County

Amalgamated German American Oil Corp.'s No. 1 J. A. Norton, 330 feet north and west of the SE cor. of Section 12, 7n-1e.

Wheeler County

Mid-Kansas Oil & Gas Co.'s No. 1 O. B. Harvey, 660 feet north and east of the SW cor. of the NE of Section 56, Block 23, H.&G.N.

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W. C. Young and others' No. 1 P. P. Langford Inv., 275 feet south and 150 feet east of the most northerly NW cor. of Section 148, Club Ranch Subdivision. Humble Oil & Refining Co.'s No. 2 L. L. Hudson, 750 feet south and 150 feet east of the NW cor. of the south 86.08 acres of Section 83, Club Ranch Subdivision. Panhandle Refining Co.'s No. 2 Mrs. L. A. Snider, 1,050 feet south and 150 feet east of the NW cor. of Section 22, Thomas Toby Survey A-643.

Brown County

Stratton & Gully's No. 1 L. King, 150 feet north and 1,150 feet east of the SW cor. of the L. King Survey No. 2, A-1,791.

Coleman County

Eastland Oil Co. and others' No. 1 A. J. Cannon, 150 feet north and 85 feet east of the SW cor. of the E. M. Justice Survey No. 165, being 150 feet north and 225 feet west of the SE cor. of their lease.

Eastland County

Cranfill & Reynolds' No. 1 J. V. Parker, 450 feet south and west of the NE cor. of Lot 17, W. Van Norman Survey.

Palo Pinto County

Montgomery and others' No. 1 C. Crocker, 3,130 feet north and 5,800 feet east of the SW cor. of the John Bird Survey A-27. Alexander and others' No. 1 W. A. Edgin, 500 feet south and 1,050 feet east of the NW cor. of the S. M. Williams Survey A-341.

Shackelford County

Carter Development Co.'s No. 1 J. H. Nail (Section 137), 150 feet south and west of the NE cor. of the SW of Section 137, Block 10, E.T.R.R.

Throckmorton County

Mosley and others' No. 1 D. McKeichan, 150 feet south and east of the NW cor. of the SE of Section 5, Comanche Indian Reserve. Hannan & Williams' No. 1 R. W. Kelley, 1,800 feet south and 900 feet east of the NW cor. of the James LaBlue Survey A-1,275. Edwards & Moore's No. 1 D. McKeichan, 770 feet south and 880 feet east of the NW cor. of Section 4, Comanche Reserve.

Upton County

Texas Pacific Coal & Oil Co.'s No. 1 King Ranch Oil & Land Co., 2,310 feet south and 990 feet east of the NW cor. of Section 28, Block 2, M.-K.-T.

Wichita County

Lambert & Trout's No. 9 W. W. Overby, 450 feet north and 815 feet west of the most easterly NE cor. of their 86-acre lease out of the John Sharp Survey A-262. Lambert & Trout's No. 10 W. W. Overby, 896 feet north and 918 feet east of the SW cor. of the John Sharp Survey A-262.

Young County

J. A. Bearman et al's No. 1 C. Baldwin Est-B, 150 feet south and east of the NW cor. of the NE of the SW of Section 20, T.E.&L. O. Bratcher's No. 5 F. M. Cullers, 150 feet south and 750 feet west of the NE cor. of the SE of the SW of the SW of Section 2, C.T.R.R., A-2,177. F H E Oil Co. and others' No. 1 S. F. Davis heirs, 150 feet south and east of the NW cor. of the south 80 acres of Section 41, T.E.&L. A. Goldsmith's No. 1 V. W. Kunkel, 150 feet south and 450 feet east of the NW cor. of the south 50 acres of the east 100 acres of the north 171 acres of Section 174, T.E.&L. Lamar & Burkhart's No. 1 I. H. Gathroght, 150 feet south and west of the NE cor. of the NE of Section 29, T.E.&L. E. H. Sharp's No. 1 M. M. Burris, 150 feet north and west of the SE cor. of the W half of the NE of Section 205, T.E.&L. Sheldon & Shaw's No. 1 Belknap Coal Co., 150 feet south and east of the NW cor. of the east 40 acres of the south 80 acres of Belknap Coal Co.'s 208.6-acre tract out of Section 22, T.E.&L. Stafford & Williams' No. 1 Mrs. W. E. White, 150 feet north and west of the SE cor. of the south 15 acres of the Mrs. W. E. White 115-acre tract out of Section 258, T.E.&L.

PANHANDLE, NORTH CENTRAL AND WEST TEXAS

Corrections

In Archer County: Cullum & Alexander's No. 1 Falls County School Land (Empire), 200 feet north and 260 feet west of the SE cor. of the west 58 acres of Section 2, Falls County School Land, A-130.

In Gray County: The Texas Company's No. 5 W. W. Harrah, 330 feet south and 990 feet east of the NW cor. of the SE of Section 150, Block 3, I.&G.N.

In Fisher County: The Texas Company's No. 1 M. A. Teagarden-B, 2,350 feet south and 440 feet west of the NE cor. of the M. A. Teagarden tract out of Section 8, Block R, W. E. Richardson Survey, being 330 feet north and 440 feet west of the SE cor. of their lease "B."

In Pecos County: Schelling & Slaughter's No. 1 I. G. Yates, 1,580 feet north and 100 feet east of the NW cor. of the Runnels County School Land, A-2,169, and located in Section 70, Block 1, I.&G.N.

In Upton County: C. C. Duffey and others' No. 2 H. L. McClintic, 328 feet south and 967 feet west of the NE cor. of Section 206, Block F, C.C.S.D.& R.G.N.G.

In Young County: Nash & Windfohr's No. 5 W. B. Hinson, 2,075 feet north and 835 feet west of the SE cor. of the P. Pier Survey A-219, and located south of the C.R.I.&G.Ry., being 755 feet north and 835 feet west of the SE cor. of their lease.

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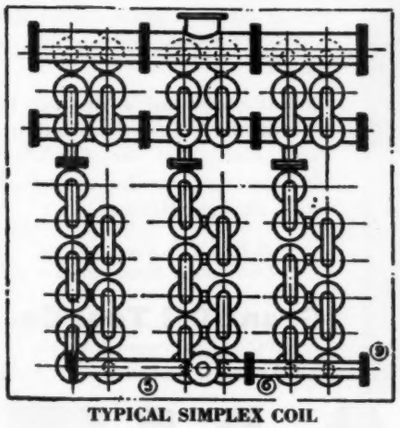

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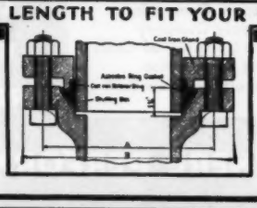

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THEORY OF MECHANICS OF EXPLOSIVES EXPLAINED

(Continued from Page 34)

shot with a single action explosive and that explosive is expected to give the same results in every conceivable kind of material. Such expectation is not logical and it is the writer's contention that if a rock of known crushing strength, elasticity and fragility can be best broken with a certain kind of explosive above ground, it is altogether reasonable to assume that results underground are, at least to a degree, comparable.

The Effect Underground

When a shot is exploded, the effect is a miniature earthquake, that is to say, the explosive used is converted into a gaseous state at such terrific speed and high temperature that disruptive energy is developed which communicates itself to surrounding materials in vibratory waves of great initial intensity and rapidly diminishing effect, the extent of the disruptive effect being controlled by the type and quantity of explosive used, and degree of confinement, and the elasticity, structure, tensile resistance and shearing resistance of the material surrounding it. Of these factors, and in order to simplify a complicated problem, we need consider mainly: Type and quantity of explosives, degree of confinement and the tensile resistance of the material to be broken. Therefore, if we establish values for these factors, it remains, to determine the amount of energy necessary to overcome them and a method of application of such energy to insure the best results.

To choose an explosive intelligently, it must first be known what will be expected of the explosive and, second, what various explosives are capable of doing.

There are at present three distinct types of oil well explosives; i.e., liquid nitroglycerin and solidified nitroglycerin (both are 100 per cent strength explosives) and gelatin dynamite. Of the three types the liquid is the most generally used with solidified nitroglycerin gaining popularity because of its relative safety and versatility of action.

Nitroglycerin

Nitroglycerin is composed of carbon, nitrogen, oxygen and hydrogen molecules so arranged that the mixture is a liquid. When nitroglycerin is subjected to a shock or blow, the molecules re-arrange themselves suddenly into a gaseous mixture with the evolution of heat. The products of this decomposition are: Carbon dioxide, water, nitrogen and oxygen.

$$4C_3H_5(NO_3)_3 = 12CO_2 + 10H_2O + 6N_2 + O_2$$

When nitroglycerin is mixed with a carbonaceous material (to make dynamite), such as wood pulp, sawdust, meal, etc., the explosion of the nitroglycerin causes them to be transformed into energy producing gases also, but in this case, we add nitrates to supply oxygen. When so mixed, the carbon does not all go to carbon dioxide, but some carbon monoxide is formed. With dynamite we usually refer to the products of explosion as: Carbon dioxide, carbon monoxide and nitrogen, a little methane and seldom any free oxygen.

The detonation of an explosive is a rapid form of decomposition or combustion. About the same phenomena occur as in the burning of a piece of wood, except that in this case the decomposition is relatively slow due to a deficiency of oxygen which must be supplied by the surrounding air. With most commercial explosives other than liquid nitroglycerin (within the scope of this paper), oxygen-carrying materials such as the nitrates are added to supply the needed oxygen for a high rate of decomposition.

Liquid nitroglycerin is so constructed that there is an inherent excess of oxygen, it therefore quite uniformly explodes with maximum velocity and strength. Due to this feature and the fact that it is little, if any, effected by hydrostatic pressure and contact with the fluids usually encountered, it must be considered as far as deep well shooting is concerned, a single purpose explosive, in the sense that it always delivers the same weight of blow per unit of volume, regardless of the nature and resistance of the material to be blasted.

At the moment of explosion 1 pound of liquid nitroglycerin yields 157.7[1] feet of gases at the rate of 23,600 feet per second at a temperature of 6,280° F.,[1] developing work producing energy of 2,200,000-foot[1] pounds and a pressure of 145,900[1] pounds per square inch, depending upon the size of the cavity or degree of confinement.

Solidified Nitroglycern

Solidified nitroglycerin is made up of just enough collodion guncotton (nitrocellulose) dissolved in liquid nitroglycerin, to cause the liquid to gelatinize and form a plastic, somewhat spongy solid. Because of the mixing of the two materials, the product is somewhat changed in character, for while either the liquid nitroglycerin or dry guncotton are among the most dangerously sensitive explosives known, the gelatinized product of their mixture forms a relatively safe commercial explosive, much less hazardous to use than liquid nitroglycerin, a quality which should recommend its use where conditions permit and other things being equal.

While if exploded under atmospheric pressure (with a suitable detonator), it has the same rate of detonation as the liquid nitroglycerin. That rate of detonation—results in the field indicate—can be controlled within certain limitations, so that the force of the explosion strikes the kind of blow best suited to give desired results in a given structure. This statement must not be construed however as implying that the author recommends that it be used to replace liquid nitroglycerin under all conditions. Each of these explosives has its own peculiar characteristics and definite field of usefulness whereby one is better suited to certain conditions than the other, as for instance—in sections where there is considerable height of pay horizon and the formation requires or will stand only a light blow and where of necessity a long shell of 1¾ inches to 3 inches would be required. In this case only liquid nitroglycerin would be practical for, as explained hereinafter the use of solidified nitroglycerin in shells of less than 3½-inch diameter is not recommended. To use solidified nitroglycerin in shells of less than 3½-inch diameter "sweetened" with liquid nitroglycerin would not be considered good practice as such "sweetening" would tend to defeat the very purpose for which the solidified explosive is used. Also in cases where the hydrostatic pressure would equal or exceed the pressure of 1,000 feet of inert water tamping, it would be unwise to use the solidified explosive for reasons explained below.

A peculiarity of solidified nitroglycerin is that it is compressible and that it tends to deteriorate in crude oil and that its sensitiveness to propagation is therefore almost directly proportional to its density and duration of immersion in oil. Experiments and results in everyday practice seem to indicate that this type of explosive can be compressed to the point where it cannot be detonated and that its rate of detonation is influenced by compression, to give a variable rate of detonation ranging from 8,000 feet to 23,600 feet per second. It would seem to follow then that if we compress it appreciably, a slower rate of detonation must result. It again follows that when placed in a bore hole with only a few feet of fluid on it, there is little compression; consequently a high rate of detonation with intense local effect will result as would be the case with the liquid explosive, whereas if there be, let us say 1,000 feet of fluid on it, the pressure will be so great as to nearly completely desensitize it, effecting its rate of detonation as well as its detonating ability.

Water Tamping

Thoughtful practice with these several factors in mind has established the fact that solidified nitroglycerin can be used with relative safety and good effect with water tamping varying from a few feet to several hundred feet, other materials in proportion to their specific gravity, provided that a primer or initiating detonator of sufficient strength be used to cause complete detonation.

At the moment of detonation 1 pound

[1]Indicates figures were arrived at by calculation.

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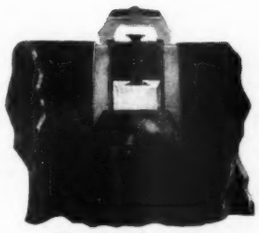

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of solidified nitroglycerin yields 170[1] cubic feet of gases at a rate (varying with pressure) of from 8,000 to 23,600 feet per second at a temperature up to 6,400° F. (proportional to the rate of detonation), giving a maximum work producing energy of 2,300,000[2]-foot pounds and a pressure of 156,000[3] pounds per square inch, depending upon the size of cavity and degree of confinement.

Most solid explosives do not detonate as well in small diameters as in large diameters and that quality applies to solidified nitroglycerin to a marked degree. Experience has shown that to get best results, this type of explosive should be used only in shells of 3½-inch diameter or larger, for when used in smaller diameters there is probability of incomplete detonation.

From what has been said of this explosive, it must be apparent that it must be used intelligently to obtain best results. When so used, it is a very efficient explosive, capable of giving a wide range of results with a marked degree of safety.

Unfortunately for this explosive, its characteristics and proper use have been little understood. Results in some cases have been most discouraging and, as a result, a prejudice has been built against it unjustly.

Dynamites

Dynamites of the gelatin, straight nitroglycerin and amonium nitrate types of varying strength have been used for oil and gas well shooting with varying degree of results and satisfaction. They are generally used for their seeming economy rather than proven efficiency. Such explosives are not generally recommended. If used at all, they should be used only when their qualities such as strength, speed, characteristic ingredients and water resisting qualities are known and understood.

Detonators

The degree of detonation obtained from any explosive is dependent upon the initiating factor, such as the blasting cap in a dynamite charge and bomb or one form or another of squib in a nitro charge, and the proximity of such initiating factor to the charge to be exploded.

To illustrate this point: If we take a stick of normally sensitive dynamite and imbed in it say a No. 3 blasting cap, when that cap explodes, probably only that part of the stick immediately adjacent to the cap will explode. The rest of it will fail to explode, whereas had a No. 6 or stronger blasting cap been used in that stick, all of it would have exploded with equal force.

Applying this principle to oil well shooting, it becomes apparent that the bomb charge or the squib charge must be ample to insure complete detonation. Not less than 1 pound of 60 per cent nitroglycerin dynamite or its equivalent primed with a No. 8 detonator should be used when direct contact with the torpedo is assured and a heavier primer should be used when the well has caving tendencies, as obviously any cavings between the torpedo and the detonating charge will deaden its effect, possibly to the extent of resulting in a low order of detonation or failure and possibly disastrous results when the tools are run.

Bad Practices

It is bad practice to do any of the following:

1. To hurry a shooter.
2. To try to save time by: (a) Running a torpedo or bomb shell on bailer; (b) measuring with a sand line when a measuring line is available and its use is practical; (c) neglecting to take frequent measurements; (d) force the shooter to take short cuts which he advises you are contrary to his orders and safe practice.
3. To use squibs of any kind other than electric in a caving hole. A time bomb with double mechanism will often save many times its cost.
4. To run a bomb with a torpedo shell except in extreme emergency as by so doing the hazard is doubled. A bomb run by itself, if fired prematurely would do little or no damage in the hole, but fired prematurely linked to a torpedo would do extensive damage. When run together it is impossible to fix responsibility.
5. To force a torpedo hung up in a well with the bailer. It is better to bleed the shell, but better still to use a shell of safe length and diameter.
6. To buy so-called cut rate torpedo service, for with torpedo service as with any other commodity, you in the end get just about what you pay for and from the price cutter, sometimes less than you pay for.

Calculating Explosive Charge

There is to the best of the author's knowledge no formula having general application for calculation of explosive charges, because of the wide variation in structures and bore hole diameters. However, the following formula can be used as a guide in strange territory where no other data are available.

This formula is purely theoretical and is based on knowledge of the radial action of explosives and the effect of the weight of the overburden. Consequently its use would be of value only as a basis from which to start.

The following example of the use of the formula, assumes that in order to obtain appreciable breaking down and expansion of the pay strata a certain lifting and compression of the overburden must take place and that such compression is estimated to be limited to an elevation of 100 feet above the charge, so that the factor of depth would be constant, whether the hole be 200 or 2,000 feet deep. Therefore the quantity of explosive and the size of the shell would be determined by the height of the pay horizon and the radius of disruptive effect desired or possible, as indicated to the operator by the tensile strength of the material involved and other related conditions or factors:

$$\text{Formula: } L=\frac{VW+W}{E}=\text{load explosive}$$

in quarts.

Explanation: Load = effective volume of overburden × average weight per cubic feet effective overburden + crushing strength of pay strata = $\frac{\text{total weight}}{\text{energy}}$ = quarts explosive.

Example: Assuming a 1,000-foot well in a soft lime with an 8-inch hole in 20 feet of pay and a desired explosive range having a 70-foot radius, then:

$$V=d\,\frac{(\pi)}{(4\ d^2)}=100\times(.7854\times140^2)=1,539{,}384$$

cubic feet which is the volume of a column 100 feet high and 140 feet diameter.

Vw = volume of overburden × weight of overburden, hence 1,539,384 cubic feet × 150 pounds, the weight of 1 cubic foot, = 230,907,600 pounds, total weight of column of overburden.

W = area of hole in the pay strata × tensile strength in pounds per square inch or $(2\pi rh)\times1{,}152{,}000$ pounds tensile strength = 42 square feet × 1,152,000 = 48,304,000 pounds tensile strength.

E = explosive energy at 4,000,000-foot pounds per quart 100 per cent explosive.

$$\text{Hence } L=\frac{230{,}907{,}600+48{,}304{,}000}{4{,}000{,}000}=$$

70 quarts.

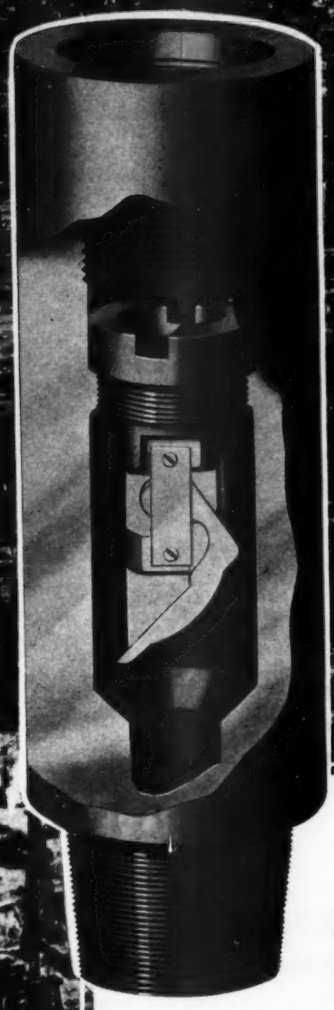
From the above example and experience it is evident that the above answer in quarts approximates the mean. It follows then that for the harder materials the load or charge increase should be proportional to the tensile resistance of the material as well as its compressibility and elasticity and perhaps also the disruptive range desired and practical.

USEFUL TABLES AND MISCELLANEOUS DATA

Maximum Diameter of Shells That May Be Run in Wells

Diameter inch	Diameter shell inch	Clearance inch
4¾	3⅝	⅝
5	4⅛	⅛
5 3/16	4¼	15/16
5⅝	4⅝	⅜
6¼	5½	⅜
6⅝	5⅝	⅜
7¼	6½	⅜
7⅝	6⅝	⅜
8¼	7½	⅜
8⅝	7⅝	⅜

(Continued on Next Page)



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Strain Reducing
Aid to Safety...

ALCO *Rotary Drill Pipe*
Float Valve

Acid bottle well surveys may be run with any number of Alco Float Valves in the drilling string. The value of the acid bottle in determining whether the drill is deviating from a vertical downward path has been firmly established. It readily passes the valve flapper, for the Alco Float Valve offers a straight unobstructed opening.

Major operators working with long strings of pipe or in excessive gas back pressure find the device reduces wear on drawworks, traveling and crown blocks, wire lines as well as brake band linings. Write for further information.

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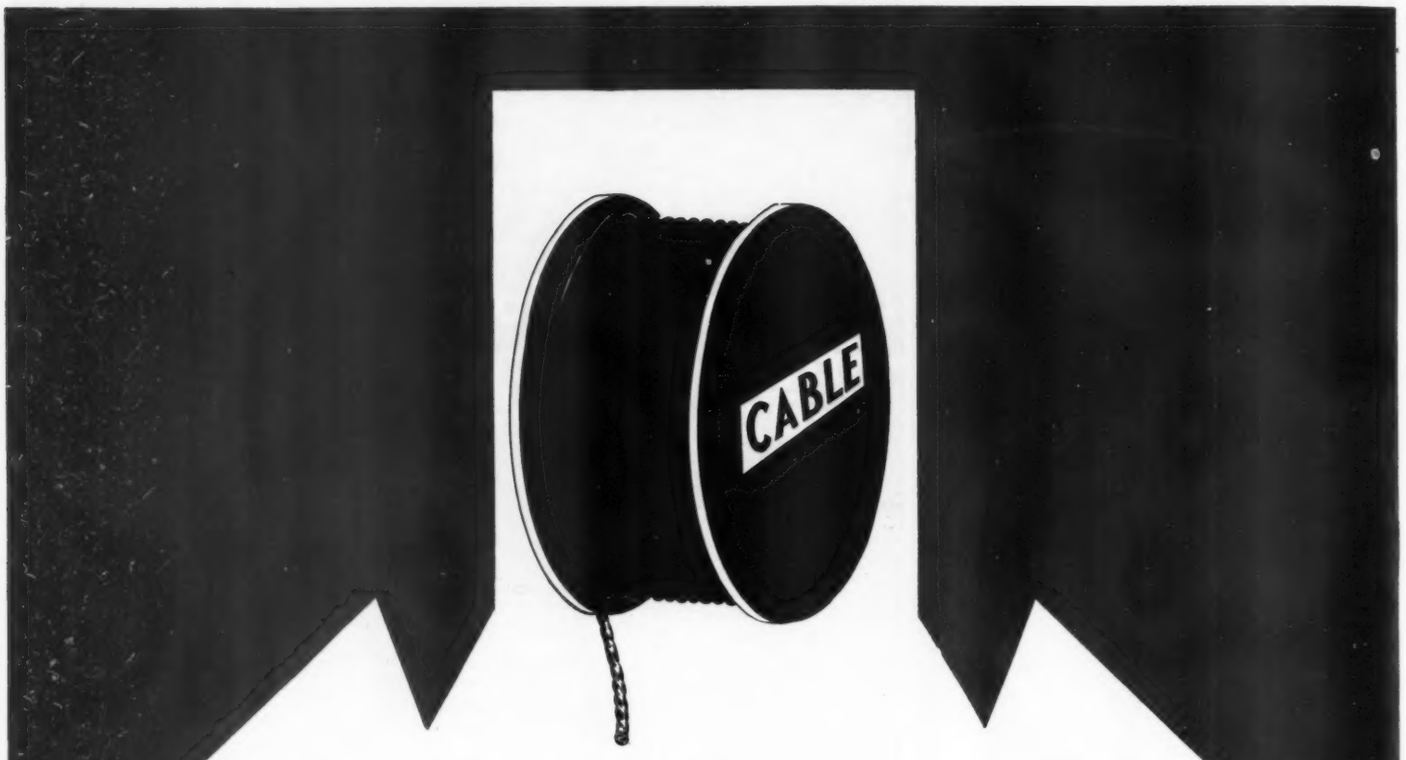

CABLE

STEEL MANILA

Again The Oil and Gas Journal leads the list of publications of national distribution in the amount of advertising used by manufacturers of steel and manila cable. The following figures indicate advertising run the first six months of this year in the five publications of national distribution in the field.

	Pages
THE OIL and GAS JOURNAL . . .	74¼
Second Publication	50
Third Publication	20
Fourth Publication	1
Fifth Publication	0

We will be pleased to furnish comparative analysis of advertising used, on any subject you are interested in. Write our Tulsa office or the nearest representative.

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R. P. (Salty) CLARK
309 Pacific Mutual Bldg.
Los Angeles, Calif.

Amount of Fluid Per 100' of Various Size Casing

Casing inch	Gallons	Barrels	Per feet
4	65	1.5	100
4½	73	1.8	100
4½	82	2.0	100
4¾	92	2.2	100
5	102	2.4	100
5¼	112	2.7	100
5½	123	2.9	100
5¾	134	3.2	100
6	146	3.5	100
6¼	159	3.8	100
6½	172	4.1	100
6¾	186	4.4	100
7	199	4.8	100
7¼	214	5.1	100
7½	229	5.4	100
7¾	245	5.9	100
8	261	6.2	100
8¼	277	6.6	100
8½	294	7.0	100
8¾	312	7.4	100
9	330	8.0	100

Pressure in Pounds Per Square Inch of Water at Various Depths

Pressure per square inch feet	Pounds
1	0.43
100	43.31
200	86.63
300	129.93
400	173.24
500	216.55
600	259.86
700	303.52
800	346.84
900	389.86
1,000	433.18
2,000	866.30

Shell Table Liquid Nitroglycerin—20 Quarts

Diameter	Length	Diameter	Length
2"	30'10.8"	5½"	4' 5.5"
2½"	19' 9.1"	5¾"	4' 1.7"
3"	13' 9.6"	6"	3'10.3"
3½"	10' 2.7"	6¼"	3' 7.2"
4"	7'11.0"	6½"	3' 4.7"
4¼"	7' 0.9"	7"	3' 0.4"
4½"	6' 4.4"	7½"	2' 9.1"
4¾"	5' 9.2"	8"	2' 6.4"
4⅞"	5' 6.1"	8½"	2' 4.2"
5"	5' 3.1"	9"	2' 2.6"
5¼"	4' 9.9"		

Shell Table Solidified Nitroglycerin—20 Qts.

Diameter	Length	Diameter	Length
3¾"	8'11.4"	5¾"	4' 1.7"
4"	7'11.0"	6"	3'10.3"
4¼"	7' 0.9"	6½"	3' 4.7"
4½"	6' 4.4"	7"	3' 0.4"
4¾"	5' 9.2"	7½"	2' 9.1"
4⅞"	5' 6.1"	8"	2' 6.4"
5"	5' 3.1"	9"	2' 2.6"
5½"	4' 5.5"		

Loaded Anchor

Diameter inch	Contains qts.	Per ft.
1	1.63	10
1¾	2.55	10
1½	3.67	10

Crushing Strength of Various Stones

Material—	Crushing strength in lbs./sq. in.	
Granite	25,000	The figures here shown incline toward the maximum. The minimum being as much as 25 per cent lower.
Bluestone	15,000	
Sandstone	12,000	
Limestone	18,000	
Marble	22,000	
Slate	10,000	

KENTUCKY FIELDS

(Continued from Page 70)

George Lee Wilcoxson, 1½ miles southeast of the gusher, and also drilling No. 1 Trigg Caudel, 300 yards north of the big well. Same parties are drilling No. 1 Lee Wilson, 1½ miles southwest of McKinnie, and also drilling No. 1 Eli Bransletter, one-half mile east of the big producer.

Ollie Norris is drilling No. 1 on the Mrs. Clint Wilson farm, 2½ miles southwest of McKinnie. H. Z. Clark is drilling No. 1 Le Grande farm, one-half mile northeast of production.

Dulworth-Taylor Co. is drilling No. 1 Cosby Church lot, one-half mile northeast of production. Kentucky Natural Gas Co. is drilling No. 1 Luther Ray farm, 2½ miles west of production. J. B. Miles Co. is drilling No. 1 Less Smith, 4½ miles west of McKinnie well.

Other wells drilling in the new field are: Richardson & Gragg's No. 1 W. R. Lester, near Canmer; Harrodsburg Oil & Gas Co.'s No. 1 Trigg Chaney farm; Richards and Gebbie's No. 1 Newberry farm, also No. 1 Asberry farm. Perkins Brothers are drilling No. 1 Will Meadows farm, 3 miles west of production.

Other wells staring are: By unknown parties, on A. M. Peyton, near Le Grande, No. 1 Jim McKinnie, and No. 1 Mrs. Blanch Smith farm.

Late advice is that Norris & Davis' second well on the Lewis McKinnie farm, in the Le Grande Pool, was as good as No. 1 and estimated at 500 bbls. initial.

H. Z. Clark's No. 1 on the Le Grande School lot, one-half mile east of the McKinnie discovery well, is estimated around 200 bbls. Norris & Davis' No. 1 Bob Hatcher farm, adjoining the McKinnie farm, is rated at 125 bbls. initial. Same parties drilled in a nice gas well on the J. A. Taylor farm.

Le Grande Oil Co. is drilling No. 1 on the Buford Ross farm, in the Le Grande Pool, and has made a location for a second test on the same farm. Rex-Spearman Oil Co. is drilling No. 1 Jim McKinnie farm, also No. 1 Mrs. Blanch Smith farm. Warder & Norris are reported to have struck an excellent gas well in No. 2 on the Abraham Garvin farm, at a depth of 525 feet, but may go deeper for oil, as the initial test on the farm is an unusually fine producer of oil. More than 25 strings of tools are working in the Le Grande Pool, and additional strings coming in daily. At the rate the work is being done, it will not be long until the extent of the field is known.

C. C. Smith is drilling on the Hershal Allen farm, across the Hart County line in Barrel County, 3 miles southwest of the McKinnie gusher.

Ohio County

Few completions were reported from the Ohio County area of the Owensboro-Hartford Field of western Kentucky. In the western part of the county and on the south side of the Rough River fault, G. H. Rice, trustee, and others' No. 1 on the Nation Brothers farm, showed an initial production of 50 bbls., and Oliver Jenkins and others' No. 1 on the Nation Brothers farm, also showed an initial of 50 bbls.; the former found the oil at a depth of 1,571 feet and the other at 1,561 feet. Further development work will be done in the vicinity of these two wells when the shutdown movement comes to a close.

Brenner & Adams' No. 4 on the A. F. Bellamy 20 acres, is reported at 20 bbls. under pump from the Jett sand.

Kentcky Natural Gas Co.'s No. 3 Frank Reynolds farm, near Reynolds Station, is reported with a gas flow of 1,300,000 feet from the Barlow sand, No. 4 same farm, is drilling.

P. A. Rowe and others are starting No. 7 on the T. P. Royal 25 acres, in the Friendship Church Pool. J. R. Pointer and others are drilling No. 3 W. H. Lyons farm, where a good gas well was drilled in the No. 2. Brenner & Adams are drilling No. 5 A. F. Bellamy farm.

Daviess County

Two dry holes were reported in the Daviess County area of the Tri-County or Owensboro Field, by Daley and Daley in a second test on the J. D. Walters farm, and George Randolph and others' No. 1 M. E. Cravens farm. The Walters farm well went to a total depth of 1,520 feet.

Scattered Development

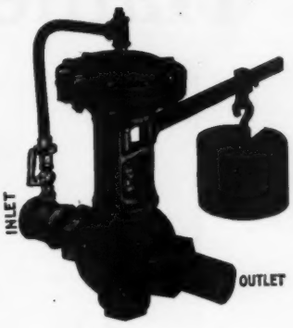
Morrison, Swarthout and others are drilling No. 1 Kate Phillips farm, near Haynesville, in Daviess County.

In Hancock County, Pellville Field, H. C. Smith's No. 1 Boyd Stout farm, showed an initial of 25 bbls. The well is 600 feet from the north line and 200 feet from the west line of the lease. D. T. Bolling is drilling No. 3 Lewis Richards farm. Ohio-Osage Oil Co. is drilling on the William Burke farm, in the south part of the county. Cox, Ewell and others are drilling No. 1 Eulas Bowling farm. Chester Oil Co.'s No. 2 William Bates farm was dry in the Jett sand and will go down to the Barlow sand.

In McLean County, James C. Ellis and others' No. 2 Lila Sandefur farm, in the Calhoun Field, produced 15 bbls. from the Jones sand at 1,206 feet, in 24 hours run.

In Henderson County, Niagara Pool, the Imperial Oil & Gas Products Co.'s No. 5 J. K. Triplett farm, pumped 4 bbls., and the same company's No. 1 Bert Duncan farm also pumped 4 bbls. initial. Niagara Drilling Co. is drilling No. 3 Jim Cooper farm. Pearson Petroleum Co. is drilling No. 2 R. T. Parker and the Wittmer Oil & Gas Co. is drilling No. 1 Jack Knight farm.

For *Speed Pump* Regulation use this CF COMPRESSOR REGULATOR



NECESSARY relief of excess discharge pressure is made sure and safe for the compressor operated at constant speed. . . . On low pressure gas compressors, constant discharge is held without affecting pressure of supply main, regardless of differential between main and discharge pressures. . . . Equally successful for steam as a back-pressure regulator. . . Only means for close regulation of uniform pressure or electric driven pumps. . . . Applicable for gas, air, steam and water.

THE valve has a definite positive movement for a definite change in discharge pressure, and will remain indefinitely at some intermediate position between the wide open and closed position.

Excess discharge pressure flows through this regulator *without noticeable variation.*

Write for data pamphlet.

The Chaplin-Fulton Mfg. Co.

Manufacturers of Regulators for All Natural and Manufactured Gas Services

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$aves on salvage

THE first operation on almost every reclamation job is cleaning. Before parts can be repaired, all muck, grime, and grease must be completely removed. To save time, money, and effort in doing this cleaning, to eliminate scraping, and to be sure that parts are thoroughly cleaned, use Oakite materials and methods.

The muck and grime that covers valves, pipes, fittings, rotary drills, well tools, chains and other pieces of oil field equipment are completely loosened by a short soak in an Oakite solution. Then a rinse leaves metal surfaces spotlessly clean so that their value for repair or scrap can be readily ascertained.

Write for booklet, "Oakite in the Oil Industry", containing full facts and formulas for every cleaning job in the field, at the refinery, or in the marketing division. Or ask our nearest Service Man to call. No obligation in either case.

Oakite Service Men, cleaning specialists, are located in the leading industrial centers of the U. S. and Canada.

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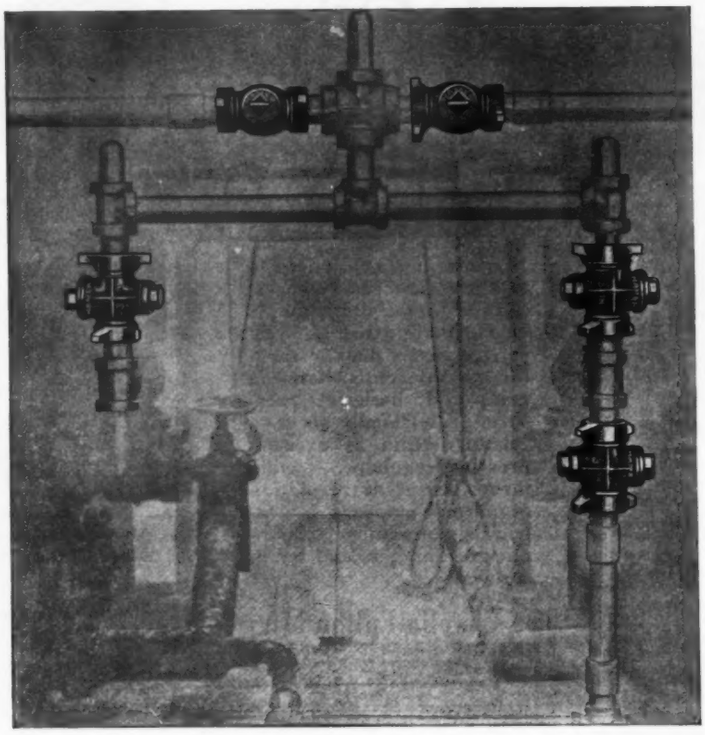
Industrial Cleaning Materials and Methods

Hamer's Latest Stop Cock



Hamer "Noblindo" Pressure Seal Stop Cocks

Made of Grade A Chrome Nickel Steel

All Hamer Stop Cocks are built of the finest chrome nickel steel obtainable, thus assuring positive, dependable and safe operation at all times with an indefinite long life.

The Hamer Stop Cock is noted for its ease of operation which is the result of balanced pressure exertion construction and complete grease lubrication.

Hamer Stop Cocks are superior for high pressure hydraulic work.

In Hamer Stop Cocks the opening through the stop is considerably larger than that of the pipe line used in connection with the particular size of valve and has round corners thus preventing cut-outs. Core head and nuts on all sizes from 2 inches up to and including 4 inches have 2½ inch hexagon heads and nuts.

Write for Catalogue!

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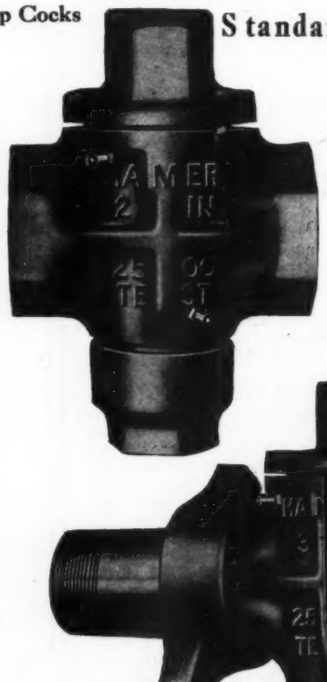
2911 Cherry Ave., Long Beach, California

Mid-Continent Distributors
Iverson Tool Company, Tulsa, Oklahoma
The Thrift Corp., Houston, Texas

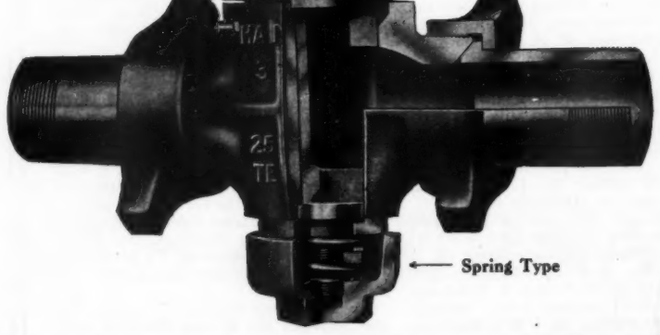
Standard Type (Regular Threads)



Made in all sizes to meet every requirement. Reinforcement ribs built in the body of the shell give sufficient strength with a minimum of weight, thereby assuring safe operation at high pressure.

Sub and Wing Nut Type

Equipped with pressure lubricating buttons making operation very flexible without loss of close fitting adjustment.



← Spring Type

HAMER PRESSURE SEAL STOP COCKS

ECONOMIC ASPECTS OF UNITIZATION CONTRASTED WITH OTHER METHODS

By Joseph E. Pogue
Consulting Engineer, New York*

There are two methods employed in the development of oil pools. The older and dominant method is one in which the primary object is the protection of the underground deposit from drainage through competing wells, and considerations of efficiency of extraction and cost of production are subordinated thereto. The newer and less prevalent method is one in which maximum efficiency and minimum cost are the first objectives and developments to these ends may proceed undisturbed by the exigencies of competitive drainage.

The second method has developed mainly in pools under single ownership and the term "unit operation" has come to be applied to this procedure. A single ownership, however, is not essential to the method, for unity of operation may be achieved by agreement under split ownership, or even by a concert of enlightened purpose. There are examples of unit operation where neither the ownership nor the management is a unit, but merely where unity of procedure has been attained, as is the case of the Yates Pool. Throughout this paper unit operation is used in its broad sense without implying sole ownership or single management, although unit operation is more conveniently attained where these conditions are present.

It is evident, upon reflection, that the second method should yield results far superior to the first, for the work of exploitation can be conducted without extraneous considerations and the natural forces present in the oil reservoir can be utilized to maximum advantage. Experience has amply confirmed this conclusion and were the facts widely known and appreciated, the efforts to extend the applications of the principle of unitization would be greatly intensified.

Competitive Development

It has come about that the vast majority of oil pools, or reservoirs, in the United States are subdivided by numerous surface tracts under separate ownerships. This condition arises from the prevalent practice in the oil business of acquiring prospective acreage in checkerboard spreads. Thus the discovery of oil usually reveals a mosaic of overlying ownership. Since oil is a migratory mineral and is subject to lateral movement where pressure is relieved by drilling, it follows that the oil originally confined within the vertical extensions of the property lines may be partly drained by operations on adjacent acreage. The law offers no protection to the underground property along its vertical boundary planes and hence the owner of the oil is forced to set up, by drilling, drainage gradients equal to those of his neighbors, or else suffer the legalized robbery of his property. In imposing upon the owner of oil property the responsibility of defending it from drainage by outsiders, the law places an intolerable burden upon the interests concerned with the efficient production of crude petroleum. The combination of subdivided ownership and an archaic law sets the tempo of crude oil production in this country and constitutes a serious obstacle to the orderly and efficient production of this commodity.

The prevalent method of producing crude petroleum has the characteristic of intensifying competition and hence of speeding up the rate of output. It results, however, in the waste of oil and gas, makes impossible the application of the best engineering practices, and leads to difficulties in adjusting the supply to market requirements. In consequence, the costs of producing oil under intra-pool competition are unduly high and place the operators involved in this method at a disadvantage. During the pioneering period of the oil industry the drawbacks of competitive development within the single oil pool were overlooked, but in recent years a growing understanding of the objectionable features has become evident and now the counter method of unit operation is receiving widespread consideration.

Unit Operation

One of the earliest discussions of the economic significance of unit operation is found in a publication issued by the Smithsonian Institution in 1918[1] from which the following citation is taken:

"By some means production must be brought under the control of legitimate demand. A constructive policy . . . will encourage a type of development that will hold petroleum in the ground until it is . . . needed . . . The first step toward this end would logically be to disfavor small holdings. In the case of the public lands, this could be accomplished by appropriate legislation permitting the patent or lease of adequate acreage. In the case of private oil lands . . . a constructive policy will favor and facilitate integration, at least up to the point where each geological unit is occupied by a single producing activity . . . The elimination of excessive competition in oil production, that is to say, of competition within the geological unit or reservoir, will go far toward placing petroleum on the same footing with other mineral products. . . It will strike to the roots of wasteful production and overproduction by enabling the producer to gain greater profit in holding the oil underground until needed and then producing it according to the best current technique than by rushing headlong into hasty production as is necessary under present circumstances. It will create conditions of supply that will cater indifferently to inferior uses, to the sustained benefit of all activities actually dependent upon the distinctive character of petroleum products. In a word, this simple expedient will prevent the migratory character of petroleum from working at severe cross-purposes, as it now does, with the best interests of the petroleum industry and the public."

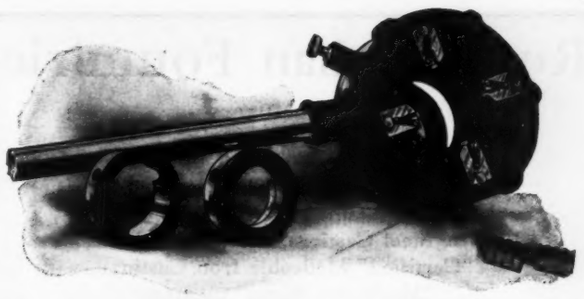
During the past few years the principle of unit operation has attracted growing attention in the petroleum industry and this matter has received careful study at the hands of many individuals as wells as by such organizations as the Federal Oil Conservation Board, the American Petroleum Institute, and the Petroleum Division of the American Institute of Mining and Metallurgical Engineers. The contributions of Henry L. Doherty to the subject have been particularly outstanding. In the meantime the practice of unit operation has got under way until now there are many examples of unit pools in the United States, although their aggregate output is still under 10 per cent of the total production of the country. In foreign countries, where circumstances of discovery are different, the small land holding is much less prevalent, and the yield from unit operations exceed the competitive production almost two for one.

Present Conditions

Because of a train of causes, including rapid advances in technology, unsound economic policies as to price and inventory accumulation, and intra-pool competition, the supply of crude petroleum has been stimulated far beyond the requirements of the market and the economic expedient of proration has developed to withhold the drilled-up supply from surface storage. In consequence a vast "potential" of crude petroleum has banked up, only a turn-of-the-valve removed from the market, while drilling still continues. The presence of this large potential constitutes the most striking aspect of the current petroleum situation and creates a new and unsolved problem for the petroleum industry. The mere presence of a large potential is evi-

*Before Petroleum Division, A.I.M.E., Tulsa and Los Angeles. Copyright 1930 by A.I.M.E., Inc.

[1]Chester G. Gilbert and Joseph E. Pogue; Petroleum: A Resource Interpretation. Bull. 102, Part 6, U. S. National Museum, Washington, 1918.



A TOOL—

---that is built especially for threading 2", 2½" and 3" oil well tubing.

A tool that has the "TOLEDO" receding die principle and operates with a ratchet. This gives the operator that ease of operation so common in "TOLEDO" tools.

The "TOLEDO" No. 1½R tool, capacity 2" to 3", 11½ threads to the inch. Net price $30.00. This same model tool can be had in standard 8 threads to the inch, capacity 2½" to 3", net price $27.00; both models slightly higher west of Rockies.

"QUALITY TOOLS"

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Holding thin, hot oil at high pressures

SMOOTH-ON holds them all

ANY pipe fitter will tell you that these fluids give the hardest test to any compound for filling screw threads and coating gaskets. Absolute tightness at the joints is essential—and it takes something exceptionally good to stop leaks here.

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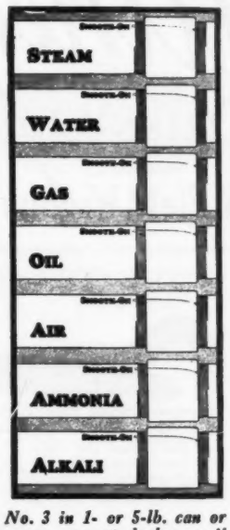

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Williamson Multispeed Winch for Oil Fields
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Eliminate Guess Work—
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This pioneer equipment has proven its worth in hundreds of installations.

It will pay you to investigate now.

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Athey Truss Wheel Oil Field Wagons

Ideal for heavy duty behind tractors, either singly or in train. • • • Made in 10, 15 and 20-ton capacities for hauling heavy loads where transportation over soft ground is a problem. • • • • • • • Write for complete information.

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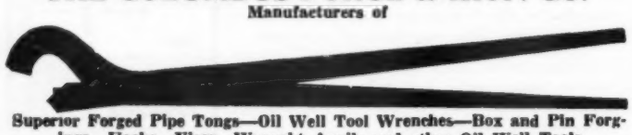
Manufacturers of



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Our Tongs are made of the best material—they will grip the pipe and stand the test for strength.
In our finely equipped Drop Forging Department we manufacture forgings of the better quality from as small as ½ ounce up to 10,000 pounds.
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Will outwear and stand more hard use and abuse than any other make of BELTING.

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dence that the cost of producing petroleum is too high, for expenditures on drilling and other aspects of production are greater than needed to balance supply and demand. The economic effect of the potential is to raise the cost of production, to reduce the rate of return on the capital employed, and to create low prices for the commodity. The existence of a large potential, furthermore, reacts unfavorably upon the refining and marketing departments of the industry, for this poorly controlled surplus at the raw material source operates to create an excess expansion in refining and distributing facilities.[2]

These conditions are undesirable and harmful to the progress of the industry. The remedy for them is difficult under present practices, but the avenues toward improvement are clearly marked. To bring the production of crude oil to a sound basis will require the elimination of the potential, or at least the uneconomic portion of the potential; a radical reduction in production costs; and the exclusion of methods that create waste, either of oil or gas. These three desiderata are closely related and it requires no extended discussion to indicate that unit operation of oil pools offers the most promising means for bringing about these improvements. Conversely, the existence of these maladjustments are creating economic forces which will slowly work to favor the corrective changes.

Reserve Without Potential

The industry has long considered the advisability of building up an adequate crude oil reserve as a stabilizing factor in the business. Of late years the advances in the technique of search have led to a marked acceleration of discovery and consequently to the creation of a sizable reserve. But because of competitive drilling requirements, this reserve has taken on the nature of a drilled-up potential instead of a true reserve, and therefore is proving disserviceable. The proper objective would be a reserve without a potential. The elimination of the potential with its whole train of unfavorable influences can scarcely be accomplished without a new method of production which will permit discovery without involving the immediate necessity of overdrilling.

Only under conditions of monopoly or of shortage can considerations of cost be ignored. It is well known that the costs of producing crude petroleum vary over a wide range according to depth, location, type of deposit, and so on. It is not so generally appreciated, however, that the method of production followed is even more important than the physical features. It is not a coincidence that the lowest cost oil in the world (i.e., Persia, Venezuela, Yates) comes from fields in which unit operation is practiced. Under conditions of oversupply, the matter of costs becomes of paramount importance, for a falling price level leaves high cost producers floundering in red ink. Conditions now prevailing in the United States are bound to emphasize the importance of production costs and to favor all means that will lead to their reduction. A shift in demand is going on in the direction of low cost sources of supply and this adjustment cannot be successfully combated by artificial barriers, but only by a lowering of costs on the part of the high cost areas. As an example, the Oklahoma City Pool, a high cost field with costs accentuated by its method of development, cannot hope to compete with the Yates Pool, a low cost field with costs additionally lowered by an intelligent plan of exploitation. When we speak of competition from cheap foreign oil we should have in mind the superior production methods employed in most foreign fields, for with proper operating procedure in this country American oil could meet competition on an equal plane wherever the transportation differential was not adverse.

A third consideration, involving the

[2] It should be pointed out that there are two types of potential: (a) the potential resulting from excessive drilling in competitive holdings, and (b) the potential caused by the procedure of flowing wells under back pressure to gain a more efficient operation. The former is uneconomic; the latter may be present in a well conducted unit operation.

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public interest, is the waste of oil and gas incidental to competitive development of oil pools. This is a matter that touches the responsibilities of both our State and Federal Governments, and the activities of the Federal Oil Conservation Board, the Oklahoma Corporation Commission, and the Texas Railroad Commission, not to mention the passage of the Texas pipe line law and the California gas law, should be sufficient evidence that these responsibilities will not be treated lightly.

Prospective Course

Unitization, like any other method of accomplishment, is an evolution. Whether this method will eventually entirely supercede competization in this country, or how rapidly it will progress, are doubtless questions that cannot be answered now. There are a number of factors, however, that appear to be accelerating the application of unit operation and there seems to be no early prospect of any change in the incidence of these forces. These factors are five in number: (a) The effect of differential cost, (b) the consequence of differential extraction, (c) the resultant of large-scale operations, (d) the need for a nationalization of supply, and (e) the matter of the public interest.

The lowered costs arising from unitization as compared with competitive development places a substantial economic advantage in favor of the newer method. As time goes on, competitive pools will find it increasingly difficult to contend with unitized pools. Already this rivalry is being actively felt in respect to low cost foreign sources of supply, and the United States will find it difficult to maintain its place in foreign markets without unitization. In this country, the same struggle is going on between the two methods, though as yet in a less conspicuous degree, and the reason that Oklahoma is forced to consider successive reductions in the State's allowable production is to be traced, in part, to this consideration.

Competitive pools are being developed and depleted more rapidly than unitized pools, and this process shows no signs of abating. Projected to its logical conclusion, this tendency will ultimately result in a dominance of unit operation.

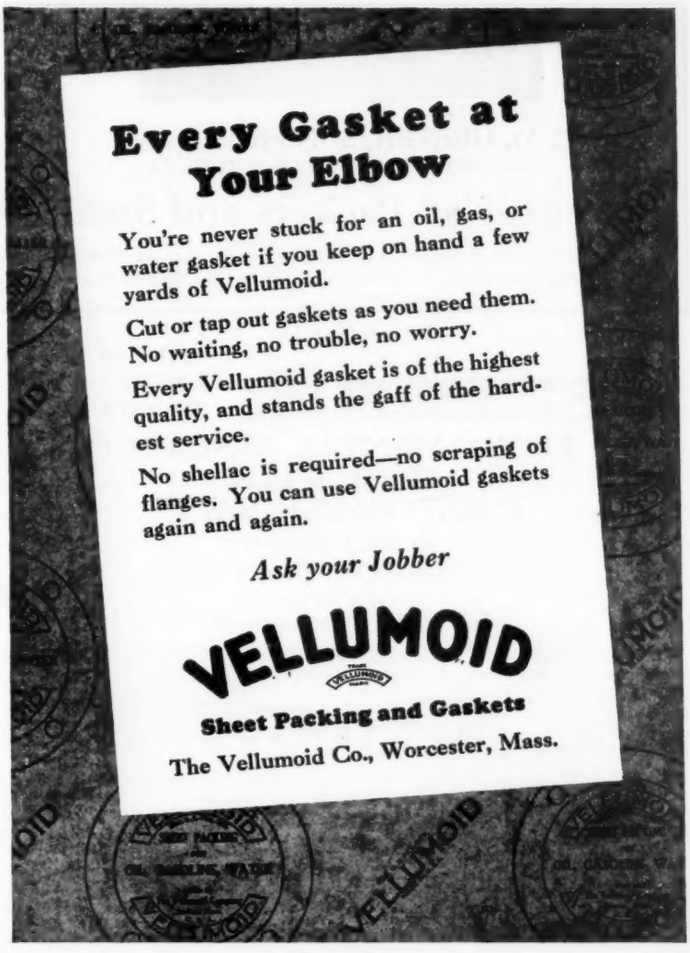
Large-scale activities in the oil industry tend to make for a type of exploration that results in spacious land holdings, and this tendency is accentuated by the newer methods of prospecting. The drift toward combination and merger, conspicuously in evidence in the petroleum industry, will further this propensity. It may be expected that an increasing proportion of our future pools will be reduced to ownership in unitized blocks.

The growing attention paid to the necessity of rationalizing the supply of crude petroleum is forcing attention to all means whereby this may be accomplished. As a result, the influence of constructive thought in the industry will facilitate the spread of unitization.

Finally, the accomplishments of unit operation, both in practice and in theory, appear to fit so closely the public interest as expressed by the policy of the Government through the Federal Oil Conservation Board and State Commissions, that a strong influence in favor of the efficient method is set up in the field of public policy.

Forces Retarding Unit Operation

The trend toward unit operation is opposed by the forces of inertia as exemplified by the small producing interest, the traditional practices in the industry, and the laws surrounding the exploitation of oil and gas. Of these, the most inflexible is the legal factor. The irrationality of the law of oil and gas is now coming to be generally recognized but there is no concert of opinion as to how this law may be changed. In fact, there is probably as yet no approach to unanimity of opinion that it should be changed. Yet the law of oil and gas, which in effect legalizes robbery, is manifestly so illogical, so unsound, and so opposed to the common law as related to other property rights that there is justification for believing that it is unconstitutional and would be so interpreted if brought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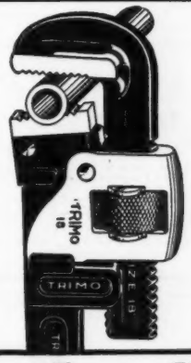

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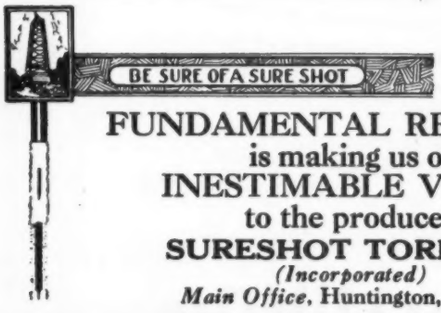

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Conclusions

(a) Unit operation is developing as a superior economic method of producing crude petroleum.

(b) Unit operation offers the means for reducing costs, eliminating waste, and gaining the economic advantage of a reserve without a potential.

(c) The progress of unitization is being facilitated by the principle of differential cost, the principle of differential extraction, the drift toward large-scale operations, the need for rationalization of supply, and the public interest in conservation.

(d) Progress in unitization is opposed by custom and the archaic law of oil and gas, which may be subjected to change.

(e) Unitization offers the most promising means available for placing the production of crude petroleum on a sound economic basis.

PRODUCTION COMMITTEES TO MEET BEFORE A. P. I.

Several committees of the American Petroleum Institute's Division of Production will convene at Chicago in advance of the opening date of the Institute's eleventh annual meeting, members have been notified.

John R. Suman, Humble Oil & Refining Co., Houston, Tex., chairman of the Committee on Standardization of Oil Country Tubular Goods, has called a meeting of the chairmen of subcommittees to be held at 9 a.m., Monday, November 10, in Room 423-A of the Stevens Hotel. These subcommittees are: Engineering Subcommittee on Standards 5-A, Engineering Subcommittee on Standards 5-L, Pipe Manufacturers' Subcommittee and Subcommittee on Pipe Threads. At 10 a.m. there will be a joint meeting of the Engineering Subcommittee on Standards 5-A, Engineering Subcommittee on Standards 5-L, and the Pipe Manufacturers' Subcommittee in the same room. The main pipe committee will meet in the same room at 2 p.m.

T. E. Swigart, Shell Oil Co., Los Angeles, Calif., chairman of the Committee on Standardization of Pumping Equipment and Engines, has called a meeting of the Committee on Pumping Equipment for 9 a.m., Monday, November 10, in Room 444-A.

The Wire Rope Section of the committee on the Standardization of Wire Rope and Manila Cordage will have an informal meeting in Room 439-A, at 9 a.m., Monday, November 10. The manila cordage section will not meet at Chicago.

DEATH OF DR. H. H. DOW

Dr. Herbert H. Dow, president of the Dow Chemical Co., Midland, Mich., who died on Wednesday, October 15, was one of the foremost chemists in the country and was recently nominated for the Chemical Markets Medal by Henry Ford. The honorary degree of Doctor of Engineering was conferred upon him by the Case School of Applied Science in 1924, and by the University of Michigan in 1929. The Perkins Medal in Chemistry for 1930 was awarded to him early this year. This is the highest award given industrial chemists, and is awarded annually for the most notable work in industrial chemistry.

NO MERIT IN SHALE CHARGES

WASHINGTON, D. C., Nov. 1.—There is neither merit nor substance in the charges made by Ralph S. Kelley, suspended chief of the field division of the Department of the Interior, at Denver, Colo., that oil shale lands "worth untold billions of dollars" have been or are about to be lost to the Government, the Attorney General, W. D. Mitchell, stated in transmitting to the Secretary of the Interior, Ray Lyman Wilbur, a copy of Assistant Attorney General Seth W. Richardson's report of his investigation into the charges.

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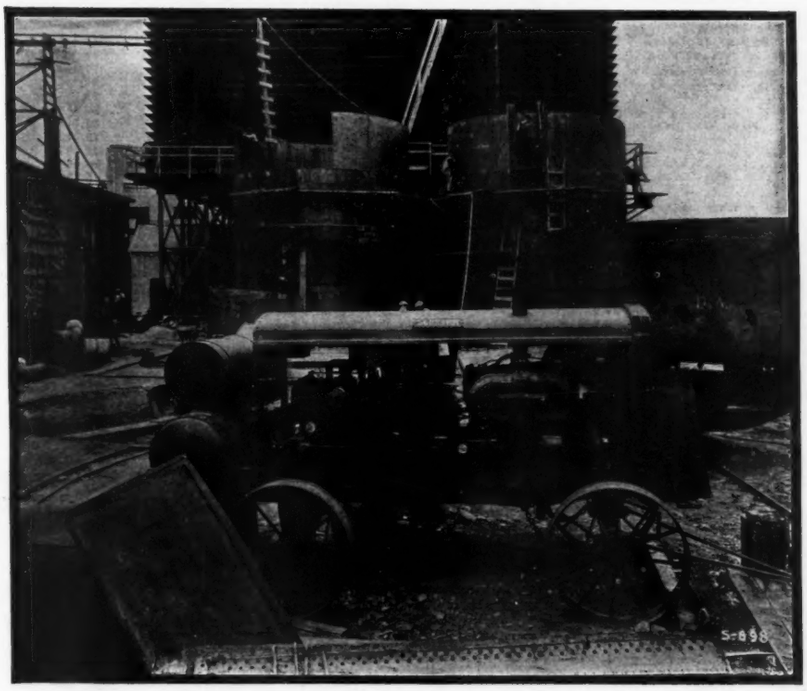

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OKLAHOMA-KANSAS

Pipe Line Report for Month of August, 1930

Runs

	Month (bbls.)	Dy.ave. (bbls.)
Prairie P. L. Co.*	3,103,000	100,100
Gulf P. L. Co.	1,373,377	44,302
Texas P. L. Co.	647,390	20,880
Magnolia P. L. Co.	1,376,804	44,413
Empire P. L. Co.	1,821,333	58,753
Cosden P. L. Co.	752,407	24,271
Sinclair P. L. Co.*	3,044,206	98,200
Oklahoma P. L. Co.	3,184,696	102,732
Other lines*	5,456,000	176,000
Total August	20,759,207	669,651
Total July	21,571,636	695,858
Difference	812,429	26,207

Shipments

Prairie P. L. Co.†	5,324,835	171,769
Gulf P. L. Co.	1,338,477	43,177
Texas P. L. Co.	1,406,320	45,365
Magnolia P. L. Co.	1,973,649	63,666
Empire P. L. Co.	2,164,408	69,820
Cosden P. L. Co.	727,772	23,477
Sinclair P. L. Co.†	3,244,253	104,653
Oklahoma P. L. Co.	3,092,998	99,774
Other lines*	4,557,000	147,000
Total August	23,829,712	768,701
Total July	23,592,103	761,035
Difference	237,609	7,666

Stocks

Prairie O. & G. Co.*	37,015,000
Gulf P. L.-Gypsy Oil Co.	3,085,136
The Texas Company	4,245,408
Magnolia Petroleum Co.	5,954,406
Empire P. L. Co.	5,296,159
Mid-Continent Pet. Corp.	3,784,079
Sinclair Crude Oil Pur Co.*	20,414,000
Oklahoma P. L. Co.	3,160,977
Carter Oil Co.	9,564,846
Other lines*	24,754,000
Total August	122,274,011
Total July	123,633,063
Difference	1,359,052

*Estimated. †Prairie and Sinclair shipments include Texas crude oil.

EASTERN PIPE LINE REPORT FOR MONTH OF SEPTEMBER

Runs From Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky, Illinois, Indiana and Michigan for August and September:

	Aug.'30	Sept.'30
Nat. Transit	118,378.49	126,408.01
S. W. Pa. P. L.	70,719.58	76,584.80
Eureka P. L.	272,439.56	286,627.14
Buckeye P. L. (Macksb'g)	320,091.51	335,374.02
Buckeye P. L. (Cleve)	11,270.77	11,061.63
Buckeye P. L. (Lima, etc.)	91,699.80	93,802.50
Indiana P. L.	3,933.81	5,054.52
Cum'land P. L.	169,133.16	179,527.92
N. Y. Transit	35,399.13	39,583.19
Tidewater P. L.	26,087.89	25,675.10
Pure Oil	255,892.02	191,912.84
Stoll Oil Rfg	3,500.15	3,317.59
Bradford Tran.	314,490.88	322,922.66
Total	1,683,036.75	1,697,851.92
Daily avg.	54,291.51	56,595.07

Note—Indian Refining Co. had other receipts of 299,733.91 bbls.

Eastern Gulf Oil reported runs of 8,872.74 bbls.

Petroleum Deliveries

The following tables exhibit the shipments or regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for August and September:

	Aug.'30	Sept.'30
Nat. Transit	479,192.75	484,508.49
S. W. Pa. P. L.	280,390.24	256,281.87
Eureka P. L.	273,684.53	244,918.35
Buckeye P. L. (Macksb'g)	160,065.90	216,745.14
Buckeye P. L. (Cleve.)	1,713.66	1,712.02
Buckeye P. L. (Lima, etc.)	1,394,277.59	1,075,693.52
Indiana P. L.	1,335,998.08	1,128,187.83
Cum'land P. L.	205,045.71	136,895.24
Southern P. L.	69,211.54	66,892.64
N. Y. Transit	172,930.08	154,725.36
Northern P. L.	172,321.25	124,793.90
Tidewater P. L.	504,721.54	585,647.20
Pure Oil	107,492.59	183,063.50
Indian Ref.	375,829.22	373,510.38
Bradf'd Trans	381,474.90	425,829.96
Tuscarora Oil	503,354.86	360,569.02
Total	6,370,704.44	5,819,974.55
Daily avg.	205,506.59	193,999.15

Gross Stocks

The gross stocks held by various pipe lines in the oil producing sections of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky and Indiana at the close of August and September:

	Aug.'30	Sept.'30
Nat. Transit	508,225.58	765,612.70
S. W. Pa. P. L.	490,266.60	542,827.93
Eureka P. L.	1,603,479.10	1,516,135.69
Buckeye P. L. (Macksb'g)	694,516.87	665,285.49
Buckeye P. L. (Cleve.)	66,815.01	66,500.27
Buckeye P. L. (Lima, etc.)	5,004,621.10	5,065,078.07
Indiana P. L.	836,606.05	759,036.08
Cum'ld P. L.	547,844.28	548,890.67
South'n P. L.	245,676.27	294,744.69
N. Y. Transit	144,696.68	139,813.32
North'n P. L.	416,121.94	480,715.71
Tidew'r P. L.	1,043,300.56	957,099.18
Pure Oil	507,198.43	520,059.95
Indian Ref.	161,817.52	88,060.52
Tuscarora	278,425.17	276,806.75
Brad Trans	197,440.63	125,354.37
Total	13,047,051.84	12,812,018.99
Decrease	221,511.00	235,032.85

Grades of Oil

The following table shows the amount of the different grades of oil held by the Eastern Pipe Lines at the close of August and September showing gross stocks of the above fields:

	Aug.'30	Sept.'30
Penna.	4,044,608.48	3,921,022.36
Lima	815,257.62	828,284.49
Kentucky	594,501.57	596,275.33
Mid-Cont.	7,051,195.35	6,946,872.38
Illinois	44,760.06	10,632.05
Michigan	496,728.56	508,932.40
Total	13,047,051.84	12,812,018.99

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1927	1928	1929	1930
Jan.	56,209	52,904	51,749	75,907
Feb.	61,298	57,002	51,833	79,256
Mar.	63,247	57,485	54,252	76,648
April	60,927	56,812	58,444	84,536
May	60,284	62,067	59,902	80,549
June	62,757	58,230	58,833	75,430
July	58,674	57,144	56,087	68,921
Aug.	60,870	57,745	56,087	54,291
Sept.	60,285	53,487	57,315	56,595
Oct.	147,080	58,100	76,093	.....
Nov.	57,275	53,365	74,831	.....
Dec.	53,089	52,025	74,561	.....

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

	1927	1928	1929	1930
Jan.	141,227	146,465	165,721	217,623
Feb.	138,534	167,368	169,387	224,355
Mar.	133,777	155,893	161,474	228,846
April	140,227	172,935	169,737	241,845
May	144,594	180,559	184,281	248,383
June	149,772	188,024	185,404	234,401
July	151,850	189,470	194,763	207,094
Aug.	188,653	192,853	184,946	205,506
Sept.	144,213	194,138	201,214	193,999
Oct.	147,036	176,000	191,367	.....
Nov.	150,975	176,898	202,743	.....
Dec.	144,504	173,572	186,257	.....

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines at the close of each month for the past three years:

	1928	1929	1930
Jan.	12,276,710	7,596,564	12,220,045
Feb.	12,180,419	8,738,835	12,991,561
Mar.	12,239,725	9,002,958	13,247,217
April	11,740,125	8,978,172	13,233,961
May	11,602,468	8,903,560	13,052,953
June	11,287,678	8,921,275	13,396,855
July	10,819,331	9,211,595	13,268,562
Aug.	10,236,743	9,440,643	13,047,051
Sept.	9,660,910	9,443,067	12,812,018
Oct.	9,229,709	9,441,101	.....
Nov.	8,366,553	9,868,538	.....
Dec.	7,539,555	11,253,953	.....

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

Gross stocks, Sept. 30	1,879,669.20
Runs from wells	431,326.01
Other receipts	147,343.64
Regular deliveries	346,016.53
Other deliveries	222,967.58

The amount of Illinois oil run by the Tidewater Pipe Co. in September was 25,675.10 bbls. Deliveries were 25,675.10 bbls. Adding these figures to those of the Illinois Pipe Line Co. makes the runs and deliveries as follows:

	Runs	Deliveries
1930		
Sept.	457,001.11	371,691.63
1929		
Feb.	517,320.17	503,387.74
March	728,319.67	586,049.60
April	515,374.27	654,297.94
May	608,981.60	673,812.83
June	568,454.70	818,846.97
July	611,106.79	828,159.44
Aug.	625,851.99	746,425.04
Sept.	582,457.66	669,947.73
Oct.	622,302.83	558,558.60
Nov.	565,108.75	427,064.63
Dec.	548,924.41	489,368.81
1930		
Jan.	543,887.95	498,293.92
Feb.	548,416.38	414,586.59
March	631,944.49	469,119.53
April	530,074.22	509,304.40
May	605,147.37	504,069.84
June	572,662.57	468,658.81
July	604,539.54	388,454.47
August	594,642.13	375,742.43

Tidewater Pipe Co., Ltd., also delivered in September, 308,731.02 bbls. Oklahoma oil.

AVERAGE DAILY RECEIPTS OF CALIFORNIA CRUDE AND REFINED OIL AT ATLANTIC AND GULF PORTS

Average barrels per day in 1929-30—	ATLANTIC PORTS						GULF COAST PORTS					
	Baltimore	Boston	New York	Philadelphia	Others	Total	Galveston	New Orleans Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	Total all ports
September	19,433	.....	31,334	11,900	6,200	69,367	.....	.....	.....	.....	4,800	74,167
October	9,065	4,677	42,065	13,000	9,677	77,484	.....	.....	.....	.....	4,097	81,581
November	18,900	3,167	41,667	14,699	3,767	82,200	.....	.....	.....	.....	2,400	84,600
December	13,968	.....	46,129	13,613	7,225	79,935	.....	.....	.....	.....	2,335	82,290
January	18,484	1,936	34,257	22,323	9,516	86,516	.....	.....	.....	.....	2,258	88,774
February	7,673	.....	24,714	14,321	5,000	51,714	.....	.....	.....	.....	2,607	54,321
March	10,548	3,065	23,871	8,774	22,484	73,742	.....	.....	.....	.....	805	74,548
April	7,767	.....	14,369	11,600	7,433	41,167	.....	.....	.....	.....	7,600	48,767
May	5,194	5,461	28,161	9,484	2,774	54,064	.....	.....	.....	.....	774	54,838
June	3,300	.....	23,933	30,767	2,333	65,333	.....	.....	.....	.....	2,400	67,733
July	17,355	7,774	43,419	23,339	6,452	98,339	.....	.....	.....	.....	4,645	103,484
August	7,418	3,742	38,968	31,226	5,258	81,613	.....	.....	.....	.....	97	81,710

AVERAGE DAILY IMPORTS OF CRUDE AND REFINED OIL AT PRINCIPAL UNITED STATES PORTS

Average barrels per day in 1929-30—	ATLANTIC PORTS						GULF COAST PORTS					
	Baltimore	Boston	New York	Philadelphia	Others	Total	Galveston	New Orleans Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	Total all ports
September	32,967	9,000	136,633	54,300	32,900	265,800	6,900	22,900	5,387	1,333	36,500	302,300
October	39,936	10,519	137,096	38,160	38,644	264,355	6,613	13,388	11,064	4,419	35,484	299,839
November	22,633	18,900	125,200	41,100	29,200	237,033	2,233	12,533	6,667	2,500	23,933	260,966
December	29,774	15,387	132,742	31,000	23,775	233,678	5,548	16,484	6,613	1,774	30,419	264,097
January	21,161	10,678	134,531	38,677	43,806	248,903	4,322	6,453	.....	548	11,323	260,226
February	24,500	14,714	147,357	36,036	39,786	262,933	2,321	11,072	3,500	1,964	19,357	281,750
March	28,355	2,839	151,806	36,645	34,903	255,548	4,323	11,645	839	2,419	19,226	274,774
April	21,400	8,933	128,500	40,433	19,434	223,700	.....	7,400	2,433	4,167	14,000	237,700
May	24,129	9,322	174,194	39,291	28,226	276,161	3,194	11,548	2,925	1,333	24,000	299,161
June	51,533	15,667	121,067	45,033	25,033	258,333	4,413	17,367	2,167	1,333	25,300	283,633
July	43,097	9,548	154,968	37,935	36,032	280,580	5,678	9,161	2,097	2,387	19,323	299,903
August	39,032	4,484	145,613	33,355	25,097	247,581	3,419	9,323	8,548	3,000	29,290	276,871

GROSS PRODUCTION OF CRUDE OIL IN THE UNITED STATES FOR 12 MONTHS

(In Barrels of 42 Gallons)

1929-30—		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Rocky Mts.	Eastern	Total
September:	Month	26,104,264	21,299,490	26,067,065	3,780,690	1,959,720	1,718,250	2,347,020	4,075,000	87,351,499
	Daily average	870,142	709,983	868,902	126,023	65,324	57,275	78,234	135,917	2,911,716
October:	Month	26,895,160	20,821,646	26,412,167	3,429,468	2,000,027	1,956,326	2,392,952	4,482,000	88,389,746
	Daily average	867,588	671,666	852,004	110,628	64,517	63,107	77,192	141,358	2,851,285
Nuvember:	Month	21,317,540	19,193,760	24,896,034	3,430,560	1,911,060	1,853,565	2,350,110	4,029,000	78,981,629
	Daily average	710,585	639,793	829,868	114,352	63,702	61,785	78,337	134,300	2,632,720
December:	Month	21,705,554	20,092,876	25,609,823	3,548,066	1,917,071	1,878,352	2,378,754	4,168,100	81,299,596
	Daily average	700,179	648,156	818,394	114,486	61,841	60,592	76,734	134,455	2,622,568
January:	Month	21,983,242	20,802,984	25,284,352	3,273,197	1,817,635	1,780,969	2,151,090	4,216,000	81,309,519
	Daily average	709,137	671,064	815,624	105,587	58,635	57,451	69,390	136,000	2,622,888
February:	Month	20,885,660	17,977,624	23,314,637	2,965,704	1,608,376	1,738,425	2,027,984	3,780,000	74,298,410
	Daily average	745,916	642,058	832,668	105,918	57,442	62,087	72,429	135,000	2,653,517
March:	Month	19,699,979	19,112,306	25,503,880	3,504,395	1,817,871	1,943,093	2,337,028	4,231,500	78,149,252
	Daily average	635,483	616,526	822,679	113,045	58,641	62,680	75,388	136,500	2,520,943
April:	Month	18,768,743	19,541,310	24,799,768	3,734,253	1,724,460	1,909,552	2,334,810	4,134,000	76,946,896
	Daily average	625,625	651,377	826,653	124,475	57,482	63,652	77,827	137,800	2,564,897
May:	Month	19,044,444	20,537,503	26,214,068	3,978,385	1,659,895	1,914,290	2,565,219	4,402,000	80,365,804
	Daily average	614,337	664,113	845,615	128,335	53,545	61,751	82,749	142,000	2,592,445
June:	Month	18,020,795	19,754,900	25,643,705	3,765,060	1,704,060	1,923,621	2,519,190	3,880,000	77,211,331
	Daily average	600,693	658,490	854,791	125,503	56,802	64,187	83,973	129,300	2,573,711
July:	Month	18,802,024	18,032,514	25,910,929	3,541,409	1,713,630	2,079,763	3,275,894	3,844,000	77,200,219
	Daily average	606,517	581,694	835,835	114,239	55,280	67,089	105,674	124,000	2,490,323
August:	Month	18,770,466	17,255,034	25,538,513	3,491,630	1,700,102	2,151,130	3,193,341	3,417,000	75,517,106
	Daily average	605,499	556,614	823,823	112,630	54,843	69,391	103,011	110,226	2,436,036
Total 12 months		251,997,871	234,471,947	305,194,440	42,443,717	21,534,067	22,847,332	29,873,392	48,658,600	957,021,067